

THE ASTROLOGICAL SCHOOL  
OF  
JOHN ABRAMIUS

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*Note:* The superscript, lower-case, letters set in the body of the text, in Appendix I and in Appendix II, refer to the translations in Appendix III (pp. 211–215). *Ed.*

ON 12 August 1376 Andronicus IV, the eldest son of the Byzantine emperor John V Palaeologus, entered the city of Constantinople with the aid of the Ottoman Murāt I and the Genoese in Pera, and besieged his father and his two brothers, Manuel II and Theodore, in their palace.<sup>1</sup> The horoscope of this event, from which we learn that Andronicus' entry into the city occurred three and one-half hours after sunrise, is preserved on folio 25<sup>v</sup> of a manuscript now in the Biblioteca Laurenziana in Florence (Laurentianus 28, 16).<sup>2</sup> In the center of the diagram is written: μηνὶ Αὐγούστῳ ιβ' ὥρα γ' ὥ τῆς ἡμέρας ἀπὸ ἀνατολῆς Ἡλίου, τοῦ ἡωπδ' ἔτους, εἴσοδος εἰς τὴν Κωνσταντίνου πόλιν τοῦ βασιλέως κῦρ Ἀνδρονίκου τοῦ Παλαιολόγου καὶ κατάσχεσις τῆς βασιλείας.<sup>3</sup>

The positions of the planets in this horoscopic diagram fully confirm the date given in the text:

	<i>Text</i>	<i>Computation for 12 August 1376<sup>3</sup></i>
Saturn	Pisces 8;26°	Pisces 9°
Jupiter	Libra 1;31	Libra 1
Mars	Virgo 21;22	Virgo 22
Sun	Leo 27;22	Leo 27
Venus	Leo 0;22	Leo 0
Mercury	Virgo 10;5	Virgo 12
Moon	Cancer 17;5	Cancer 17
Lunar Node	Aquarius 2	Aquarius 3
Ascendent	Libra 8	ca. 9 A.M.
Lot of Kingship <sup>4</sup>	Taurus 29	

Below the diagram is written the following:

Ὁ μὲν κλῆρος ἐν κακῷ τόπῳ ἐστὶ τῷ ἡ' ὁ δὲ τριγωνικὸς δεσπότης αὐτοῦ, τουτέστιν ἡ Ἀφροδίτη, ἐν καλῷ τόπῳ ἐστὶ τῷ μεσουρανήματι· καὶ σημαίνει τὸν βασιλέα ἐκ λύπης καὶ δειλίας τινὸς εἰς ἑαυτὸν ἐπανελεύσεσθαι καὶ ἀνδρείοτερον ἔσεσθαι. ἐπεὶ δὲ καὶ ἄμφω οἱ τριγων-

<sup>1</sup> G. T. Dennis, "The Reign of Manuel II Palaeologus in Thessalonica, 1382–1387," *Orientalia Christiana Analecta*, 159 (1960), 29. My account of Byzantine affairs from 1371 to 1386 generally follows that of Dennis. For the history of Mitylene while the astrological school was there and the connections of its rulers with the party of Andronicus IV and John VII, see *idem*, "The Short Chronicle of Lesbos. 1355–1428," *Λεσβιακά*, 5 (1965), 1–24. I owe this reference to the kindness of Prof. John Barker, whose *Manuel II Palaeologus* (New Brunswick, N. J., 1969) should also be consulted.

<sup>2</sup> The manuscript is described in *CCAG*, 1;38–39. This horoscope and that on folios 24<sup>v</sup>–25 were copied by Ismael Bullialdus in Parisinus suppl. gr. 20, fols. 118–118<sup>v</sup>; see *CCAG*, 8,4;75–76. (Note that *CCAG* refers to the *Catalogus Codicum Astrologorum Graecorum* [Brussels, 1898–1953]; the number[s] before the semicolon refer to volumes and their parts, those after it to pages.)

<sup>3</sup> I have used B. Tuckerman, "Planetary, Lunar, and Solar Positions. A.D. 2 to A.D. 1649," *Memoirs of the American Philosophical Society*, 59 (1964), and, for the lunar node, P. V. Neugebauer, *Tafeln für Sonne, Planeten und Mond* (Leipzig, 1914).

<sup>4</sup> The Lot of Kingship is computed by laying off from the midheaven the longitudinal difference between the Sun and Moon; see, e.g., *Heliodori, ut dicitur, in Paulum Alexandrinum commentarium*, ed. E. Boer (Leipzig, 1962), 59. As midheaven is Cancer 9° and the longitudinal difference between the Sun and Moon is almost 320°, the Lot of Kingship is correctly placed at Taurus 29°.

νικοί δεσπύονται τοῦ κλήρου, ἡγουν ἡ Ἀφροδίτη καὶ ἡ Σελήνη, ἐν ἀγαθῷ τόπῳ τῷ μεσουρανῆματί εἰσι καὶ ἔτι ἡ Ἀφροδίτη ἑῶαν φάσιν ποιεῖται, εὐημερίαν καὶ νίκην ἔσεσθαι σημαίνει τῷ βασιλεῖ, πλὴν ἐπειδὴ ὁ Ζεὺς ἐν τῷ κακοδαιμονήματί ἐστι, λύπην τινὰ μετρίαν τῷ βασιλεῖ καὶ ἀνωμαλίαν τῶν βασιλικῶν πραγμάτων ἔσεσθαι σημαίνει. ἐπεὶ δὲ τὸ μεσουράνημα ἐν ὀρίοις ἀγαθοποιοῦ ἐστι τοῦ Διός, ἀγαθὸν σημαίνει.<sup>b</sup>

The generally optimistic twist which is given to the interpretation of this horoscope indicates that its caster was a partisan of Andronicus IV.

The astrologer, perhaps, showed more courage than did Andronicus, whose ignominious defeat on 25 May 1373 is obliquely referred to, for the patriarchal court during the preceding forty years had been waging violent war on magicians and other practitioners of the black arts, including astrologers. George Tzerentzes was convicted in November 1338;<sup>5</sup> the Patriarch John XIV Calecas warned the clergy<sup>6</sup> and the government<sup>7</sup> of the dangers of the practice of magic in Constantinople in late 1338 or early 1339; the Patriarch Callistus I in 1350–51 rejoiced in the fact that one Amarantina had abandoned the practice of magic to become a nun;<sup>8</sup> and a certain Cappadoces from Thessalonica was condemned for practicing magic in 1354.<sup>9</sup>

More immediate were two famous cases tried in 1371 under the Patriarch Philotheus Coccinus. The first, involving accusations against a number of men, including Demetrius Chlorus, who shortly before had been protonotary of “our holiest great church of God,” was considered on 12 May.<sup>10</sup> Demetrius was accused of having transcribed a manuscript full of curses and appeals to demons which had been painstakingly assembled by him from other magical books, especially from the *Coeranides*. Demetrius replied that this demonology was really just a part of medical science, an allegation that professional doctors were quick to deny. An older accusation against him was then injected into the trial, the charge that he was an adherent of the heretical views of Barlaam and Acindynus, though he had abjured their errors two years previously, on 15 June 1369.<sup>11</sup> Demetrius eventually threw himself on the mercy of the court, and was sentenced to solitary confinement in the Peribleptos monastery. I have dwelt at length on Demetrius Chlorus, as one of the half dozen manuscripts to contain his sole surviving treatise, *Περὶ τοῦ τί ποιῶν τις εὕρισκε τὸν ὥροσκόπον ἥτοι τὴν ἀνατέλλουσαν μοῖραν ἀπταίστως*, is our Laurentianus 28, 16.<sup>12</sup>

The second case of 1371 involving magic was also heard in May. At this trial John Exacustus, Stylianus Cleidas, and the priest Stamatinus declared that they were not associated with a man referred to only as Abramius either in the

<sup>5</sup> F. Miklosich and J. Müller, *Acta et Diplomata Graeca Medii Aevi*, 6 vols. (Vienna, 1860–90), 1, nos. LXXIX and LXXX, 180–82.

<sup>6</sup> *Ibid.*, no. LXXXV, 184–87.

<sup>7</sup> *Ibid.*, no. LXXXVI, 188–90.

<sup>8</sup> *Ibid.*, no. CXXXIV, 301–6, and no. CXXXVII, 317–18.

<sup>9</sup> *Ibid.*, no. CLIII, 342–44.

<sup>10</sup> *Ibid.*, no. CCXCII, 541–50; see F. Cumont, *Bull. de la société des Antiquaires de France* (1919), 175. One of Demetrius' fellow defendants, Theodosius Phudulis, promised in May 1383 never to practice magic again; see Miklosich and Müller, 2, no. CCCLXXVII, 84–85.

<sup>11</sup> Miklosich and Müller, 1, no. CCXLVI, 503–5.

<sup>12</sup> Folios 23v–24. This and the other astronomical texts in the manuscripts produced by the school of John Abramius I hope to publish elsewhere.



letter full of evil intent which he wrote to the emperor, John V, or in his magic and curses.<sup>13</sup> I will attempt to demonstrate below that the astrologer who cast the horoscope of Andronicus' entry into Constantinople in 1376 was none other than John Abramius, the scribe of most of Laurentianus 28,16; it is tempting to identify him also with the Abramius who was practicing magic against John V in 1371.<sup>14</sup>

But his identity has not yet been established. The horoscope is written in the carefully formed script of a professional scribe. The same hand has copied on folios 24<sup>v</sup>–25 of Laurentianus 28,16 the horoscope of the proclamation of Manuel II as emperor of Byzantium on 25 September 1373.<sup>15</sup> This horoscope is found also on folios 1–1<sup>v</sup> of Laurentianus 28,13,<sup>16</sup> a manuscript copied by John Abramius, as was most of Laurentianus 28,16. The center of the horoscopic diagram in Laurentianus 28,16 bears the inscription: Θεμάτιον γεγονὸς ἐπὶ τῇ ἀγορεύσει κῦρ Μανουήλ τοῦ υἱοῦ βασιλέως Ἰωάννου τοῦ Παλαιολόγου· ἔτους ςωπβ μηνὶ Σεπτεμβρίῳ κ' ἐπ' αὐτῆς τῆς μεσημβρίας<sup>ε</sup>; that in Laurentianus 28,13 bears the inscription: μηνὶ Σεπτεμβρίῳ κ' τοῦ ςωπβ ἔτους ἐπ' αὐτῆς τῆς μεσημβρίας, carefully avoiding any reference to the dangerous fact that it is a political horoscope.

The positions of the planets in the diagram again confirm the given date, except that the Moon should be at Capricorn 18;44°.

	<i>Text</i>	<i>Computation for 25 September 1373</i>
Saturn	Capricorn 27;30°	Capricorn 28°
Jupiter	Cancer 26;22	Cancer 26
Mars	Aries 12;28	Aries 14
Sun	Libra 10;21	Libra 11
Venus	Libra 12;10	Libra 13
Mercury	Libra 18;37	Libra 18
Moon	Capricorn 8;44	Capricorn 22
Lunar node	Pisces 28 <sup>17</sup>	Pisces 27
Ascendent	Sagittarius 17	ca. noon
Lot of Fortune <sup>18</sup>	Pisces 15;43	
Lot of Kingship <sup>19</sup>	Capricorn 9	

<sup>13</sup> Miklosich and Müller, 1, no. CCCV, 560. The Patriarchal Court seems in this case (and perhaps in that of Demetrius Chlorus) to be attacking supporters of Andronicus IV. Stylianus Cledas was condemned for practicing magic on 22 April 1372; see *ibid.*, no. CCCXXXI, 594–95.

<sup>14</sup> The only other members of the Abramius family in the fourteenth century that I now know of are a Manuel Abramius who was a witness in the trial leading to the excommunication of the Metropolitan of Philippi in 1337 (*ibid.*, no. LXXV, 168–71) and a George Abramius who was one of many clerics who signed a document of good faith in December 1357 (*ibid.*, no. CLXVII, 368–75).

<sup>15</sup> The planetary positions are given by I. Bullialdus (see *supra*, note 2) in his commentary to Ducas' *Historia Byzantina*, reprinted in the edition by I. Bekker (Bonn, 1834), 555.

<sup>16</sup> Described in *CCAG*, 1;6–20.

<sup>17</sup> Aquarius 28° in Laurentianus 28,13.

<sup>18</sup> The Lot of Fortune, during the day, is computed by laying off the longitudinal difference between the Sun and Moon (here 88; 23°) from the ascendent; one should, then, have Pisces 15; 23° rather than Pisces 15;43°.

<sup>19</sup> As midheaven is Libra 10°, the Lot of Kingship should be Capricorn 8; 23°, for which our astrologer has erroneously substituted 8;43°, rounded off to 9°.

Below the horoscopic diagram the astrologer has inserted a long list of all the bad aspects that he can find:

Ἐκ μὲν τῶν περὶ πάσης καταρχῆς ἐπισημασιῶν ταῦτα φαῦλα σημεῖα κέκρινται.

Ὁ τοῦ ὥροσκοπικοῦ ζώδιου τοῦ Τοξότου κύριος ὁ Ζεὺς εἰς τὸν ἦ' τόπον εὐρέθη. ὁ Ζεὺς κύριος ὦν τοῦ ὥροσκόπου διαμετρεῖ τὸν Κρόνον ἐν κακῷ τόπῳ τῷ β' ὄντα. εἰσὶ δὲ καὶ ἐναντίοι ἀλλήλοις ὁ τε κύριος τοῦ ὥροσκόπου ὁ Ζεὺς καὶ ὁ κύριος τοῦ β' ὁ Κρόνος· διαμετροῦσι γὰρ ἀλλήλους. ὁ οἰκοδεσπότης τοῦ κλήρου τῆς τύχης, ἡγουν ὁ Ζεὺς, ἐν τῷ ἦ' τόπῳ ἐστὶ διαμετροῦντι τὸν β', καὶ ἀμφοτέρων κακῶν ὄντων τῶν τόπων. ὁ Ἄρης ἐν τῷ ὑπὸ γῆν ὦν κακὸν ἔσσεσθαι τὸ τέλος σημαίνει. ὁ κύριος τοῦ κλίματος ἐν ᾧ ἡ καταρχή, τουτέστιν ὁ Κρόνος, διάμετρός ἐστι τῷ κυρίῳ τοῦ ὥροσκόπου, ἡγουν<sup>20</sup> τῷ Διί.

Ἐκ δὲ τῶν περὶ βασιλικῆς ἀναρρήσεως ἐπισημασιῶν καὶ ταῦτα φαῦλα εὗρηται σημεῖα.<sup>21</sup>

Ὁ Ἄρης κακοποιὸς ὦν διαμετρεῖ τὸν Ἥλιον, καὶ εἰσὶ παρ' αἵρεσιν. ἡ Σελήνη σύνεστι τῷ Κρόνῳ κακοποιῶ ὄντι καὶ παρ' αἵρεσιν. τὸ μεσουρανοῦν ζώδιον τροπικὸν ὃν δηλοῖ τὸ παράμονον τῆς καταρχῆς ἄστατον καὶ ἀβέβαιον καὶ εὐμετάτρεπτον. τὸ δὲ ἀνατέλλον δίσωμον ὃν δηλοῖ χρονίαν μὲν, οὐ παράμονον δέ. ἡ Σελήνη ἔρχεται ἐπὶ τὸν Κρόνον, ὁ δὲ Κρόνος οὐ στηρίζει· καὶ δηλοῖ τὴν ἀρχὴν ἄστατον. ὁ Ἄρης κακοποιὸς ὦν διαμετρεῖ μὲν τὸ μεσουράνημα, τετραγωνίζει δὲ τὸν ὥροσκόπον· καὶ δηλοῦσι ταχεῖαν τὴν μεταβολήν· ὁ Ἄρης διαμετρεῖ τὴν Ἀφροδίτην κύριον ὄντα τοῦ μεσουρανήματος, ἥτις λόγον ἔχει καὶ οἰκειότητα εἰς τὴν καταρχὴν τῆς ἀναγορεύσεως. τὸ δῦνον πλάγιον ζώδιον ὃν κακοῦται ὑπὸ<sup>22</sup> φθοροποιού τοῦ Ἄρεως τετραγωνικῶς πρὸς αὐτὸ σχηματιζομένου<sup>23</sup> ὁ δὲ κύριος αὐτοῦ ὁ Ἑρμῆς καλὴν θέσιν<sup>24</sup> ἔχει, καὶ δηλοῖ ἀπλοῦν καὶ ἀκέραιον τὸν ἄνδρα. ἡ Σελήνη σύνεστι τῷ Κρόνῳ κακοποιῶ ὄντι,<sup>25</sup> καὶ δηλοῖ ταχεῖαν τὴν διαδοχὴν. ὁ Ἥλιος ἐπίκεντρός ἐστι καὶ ὑπὸ κακοποιού τοῦ Ἄρεως βλάπτεται διαμετρούμενος· σημαίνει οὖν ὀλιγοχροניות. τὸ δὲ χρεῖον εἰς ὀλιγοχροניות ὅτι καὶ οἱ οἰκοδεσπότες τῶν φώτων, ἡγουν ἡ Ἀφροδίτη καὶ ὁ Κρόνος, βλάπτονται ὑπὸ κακοποιῶν, ἡ μὲν Ἀφροδίτη ὑπὸ τοῦ Ἄρεως, ὁ δὲ Κρόνος ὑφ' ἑαυτοῦ καὶ ἔτι ὑπὸ τοῦ Ἄρεως. ὁ κύριος τοῦ ὥροσκόπου, ἡγουν<sup>26</sup> ὁ Ζεὺς, σχηματίζεται διαμετρικῶς τῷ κυρίῳ τοῦ β' τόπου, ἡγουν τῷ Κρόνῳ· καὶ δηλοῖ ὅτι ἐκουσίως ὁ ἄρχων ἐξόδους ποιήσει πολλὰς. ὁ ια' τόπος κακοῦται ὑπὸ τοῦ Κρόνου τριγωνικῶς σχηματιζομένου πρὸς αὐτόν· καὶ δηλοῖ βλάβην τῶν οἰκείων. ἡ δὲ τοῦ β' τόπου κάκωσις δηλοῖ βλάβην τῆς ποίμνης αὐτοῦ.<sup>27</sup>

This dismal catalogue of portents of ill luck for Manuel could have been compiled only by an astrologer desirous of pleasing his bitter fraternal foe, Andronicus.

The same professional scribe who copied the horoscopes in Laurentianus 28,16 also penned the whole of Laurentianus 28,14,<sup>27</sup> a manuscript sharing many of its contents with the Laurentiani 28,13 and 28,16. Several horoscopes are found in this manuscript too, evidently the work of the same astrologer who cast those which have been discussed above. On folios 290–290<sup>v</sup> is the horoscope of a wealthy man, a friend of the Emperor, who was born in Byzantium on 17 January 1352; and on folios 292–293 one of a noble Venetian ambassador

<sup>20</sup> ἡγουν om. Laur. 28,13.

<sup>21</sup> σημεῖα om. Laur. 28,13.

<sup>22</sup> ὑπὸ om. Laur. 28,13.

<sup>23</sup> σχηματιζομένου πρὸς αὐτό Laur. 28,16.

<sup>24</sup> θέσιν om. Laur. 28,13.

<sup>25</sup> κακοποιῶ τῷ κρόνῳ Laur. 28,13.

<sup>26</sup> ἡγουν om. Laur. 28,13.

<sup>27</sup> Described in *CCAG*, 1;20–37.

born on 4 February 1345.<sup>28</sup> More interesting is another political horoscope on folios 291–292, cast beforehand for a lunar eclipse which had been predicted for three hours after sunset on 22 August 1374.<sup>29</sup> Above the horoscopic diagram is written: Θεμάτιον ἐκλείψεως γεγονυίας σεληνιακῆς ἐν ἔτει ,ζωπβ Αὐγούστῳ κβ' ὥρα γ' τῆς νυκτός.<sup>30</sup>

The planetary positions given in the diagram again confirm the date (the directions of the planets' latitudes are also indicated):

	<i>Text</i>	<i>Computation for 22 August 1374</i>
Saturn	Aquarius 11° S.	Aquarius 12° S.
Jupiter	Leo 15 N.	Leo 15 N.
Mars	Virgo 16 N.	Virgo 16 N.
Sun	Virgo 7;8	Virgo 7
Venus	Cancer 23 N.	Cancer 24 S.
Mercury	Leo 27 S.	Virgo 1 N.
Moon	Pisces 7;8	Pisces 8
Lunar node	Pisces 9	Pisces 10
Ascendent	Gemini 14	ca. midnight

Below this the astrologer gives his interpretations:

⟨ὦ⟩ροσκοποῦσι Δίδυμοι, οἶκος καὶ νυκτερινὸν τρίγωνον Ἑρμοῦ, ἡμερινὸν δὲ Κρόνου, κοινὸν δὲ κατ' ἄμφω Διός, ὅριον Ἀφροδίτης, πρόσωπον Ἀρεως, ὕψωμα Ἀναβιβάζοντος, ταπεινῶμα Καταβιβάζοντος. τόπος ἐκλείψεως Ἰχθύες ζ', οἶκος Διός, ὅριον Ἀφροδίτης, πρόσωπον Κρόνου καὶ νυκτερινὸν τρίγωνον, ἡμερινὸν δὲ Ἀρεως, Σελήνης κοινόν, ὕψωμα Ἀφροδίτης,<sup>30</sup> ταπεινῶμα Ἑρμοῦ. μεσουρανοῦν κέντρον Ὑδροχόος ιζ', οἶκος Κρόνου, ὅριον Διός, πρόσωπον Ἑρμοῦ, τρίγωνον νυκτερινὸν Ἑρμοῦ, ἡμερινὸν δὲ Κρόνου, κοινὸν δὲ Διός.<sup>f</sup>

Ὅπηνίκα ἡ ἔκλειψις Ἡλίου ἢ Σελήνης ἐν τοῖς Ἰχθύσι γένηται, ἔσται πολὺς ὑετός, ἐπιλήμιος λιμός τε καὶ ἀσθένειαι ἐπικίνδυναι καὶ κακωσύνη τῶν ἐνδόξων καὶ μεγιστάνων. καὶ ὁ Ἀρης τετραγωνίζων ἢ διαμετρῶν ὡς ἐνταῦθα τὸ ζῳδιον τῆς ἐκλείψεως δηλοῖ πόλεμον καὶ αἱματεκχυσίαν, πολλήν τε βλάβην τῶν χόρτων καὶ μεγάλου ἄρχοντος τῶν Ῥωμαίων θάνατον. ἐπεὶ δὲ καὶ εἰς τὸν ι' τόπον τοῦ θέματος ἡ ἔκλειψις γέγονεν, δηλοῖ κακωσύνην καὶ φόβον εἰς τὰς καρδίας τῶν βασιλευόντων ἐν ταῖς συνοικειουμέναις χώραις τῷ ζῳδίῳ τῆς ἐκλείψεως (εἰσὶ δὲ αὗται Φαλαγία, Νασαμωνίτις, Γαραμαντηνὴ, Λυδία, Κιλικία, Παμφυλία). ἔτι δηλοῖ νίκην τῶν κατ' αὐτῶν ἐχθρῶν, καὶ μάλιστα ὅτι ὁ κακοποιὸς Ἀρης ἐκ διαμέτρου μετὰ ⟨Ἑρμοῦ⟩<sup>31</sup> βλέπει ἐκεῖ. ἐπεὶ δὲ μετὰ τὴν ἀπόρροιν τῆς ἐκλείψεως ἡ Σελήνη πρώτως τῷ Ἀρει συναφθῆσεται κατὰ σχῆμα διάμετρον, δηλοῖ ὅτι σφαγαὶ ἔσονται καὶ θάνατοι μεγάλων προσώπων καὶ ὑπερηφανία κλεπτῶν καὶ ὀδοστατῶν.

Εἰ οὖν ἔσται τὸ χρῶμα τῆς ἐκλείψεως ταύτης λευκόν, ὡς ὁ Μαστράγγελος λέγει, λιμὸν καὶ θάνατον τοῖς τε κτήνεσι καὶ ἐμπόροις σημαίνει· εἰ δὲ ἐρυθρόν, ὡς οἱ Πέρσαι λέγουσιν,

<sup>28</sup> These two horoscopes will be found in Appendix I.

<sup>29</sup> This is lunar eclipse 3996 in T. R. von Oppolzer, *Canon der Finsternisse, Denkschriften der Kaiserlichen Akademie der Wissenschaften, Math.-Naturwiss. Cl. 52* (Vienna, 1887), 364, which reached its maximum at 9:35 p.m. in Byzantium.

<sup>30</sup> ἀφροδίτη κοινή, ὕψωμα σελήνης MS.

<sup>31</sup> Lacuna of 5 letters in MS.

ἐπειδὴ καὶ ἡ ἐκλείψις εἰς τὸν Ἀναβιβάζοντά ἐστιν, δηλοῖ ὄχλησιν καὶ ἀσθένειαν τῶν βασιλευόντων ἐν ταῖς ῥηθείσαις χώραις. ἐπεὶ δὲ καὶ ὁ κύριος τοῦ ἰ' οἴκου ὁ Ζεὺς συνάπτεται τῷ κυρίῳ τοῦ η' τόπου τῷ Κρόνῳ κατὰ σχῆμα διάμετρον, δηλοῖ ὅτι θανεῖται ἄνθρωπος εἰς τὸ κράτος τοῦ βασιλέως ἐχθρὸς αὐτοῦ γέρων καὶ χαμαιτυπῆς. ἐπεὶ δὲ καὶ ὁ Κρόνος κυριεύει τῆς μοίρας τῆς ἐκλείψεως, δηλοῖ ἀσθενείας πολλὰς καὶ χρονίους. ἐπεὶ δὲ ὁ Ἑρμῆς δυνατώτερός ἐστι κύριος τῆς ἐκλείψεως, τότε ἀποτελεσθήσεται ὁ δηλοῖ τὸ σύμπτωμα ὅταν αὐτὸς φθάσῃ εἰς τὸ ζῶδιον τῆς ἐκλείψεως, ἡγουν περὶ τὸν Μάρτιον μῆνα· φανήσεται δὲ καὶ μερικόν τι ἀπὸ τούτων σύμπτωμα περὶ τὰς ἀρχὰς τοῦ Σεπτεβρίου διότι τότε ἡ Σελήνη φθάσει εἰς τὸν ὠροσκόπον τῆς ἐκλείψεως, δηλαδή τοὺς Διδύμους. ἔσται δὲ καὶ ὁ καρπὸς τοῦ σίτου πρῶτος διότι ἡ ἐκλείψις ἐν Ἰχθύσι γεγένηται. διότι δὲ καὶ ζῶδιον ὕδατῶδες ἐστὶν οἱ Ἰχθύες, ἐν οἷς ἡ ἐκλείψις γίνεται, καὶ ὁ ποταμὸς Ἡριδανὸς τῷ ὠροσκόπῳ συνανατέλλει καὶ τὸ Κῆτος ἔσται ἐν τοῖς Ἰχθύσι, βλάβη καὶ ἐν πᾶσι τοῖς ποιοῦσι τὰς διατριβὰς ἐν ὕδασι. ἐπεὶ δὲ καὶ ὁ Ἀναβιβάζων σὺν τῇ Σελήνῃ ποιοῦνται τὴν ἐκλείψιν ἐν Ἰχθύσι, λείψιν<sup>32</sup> ὕδατων ποιήσουσιν ἐν ταῖς τούτοις ὑποκειμέναις χώραις ὥστε τοὺς ἐν Ἀσίᾳ ἀνθρώπους εἰς ἄλλας χώρας μετοικῆσαι διὰ τὴν τῶν ἐπιτηδείων λείψιν· λείψις γὰρ ἰχθύων ἐν τε τῇ θαλάσσῃ καὶ ἐν τοῖς ποταμοῖς γενήσεται.<sup>8</sup>

This long interpretation manifests hostility toward both the emperor of the Romans (John V), whose death is predicted, and toward the inhabitants of Anatolia (the list of countries subject to Pisces is taken from Ptolemy, Ἀποτελεσματικά 2,4,4), the Turks, whose rulers, it is said, will be terrified and whose numbers (apparently those inhabiting coastal regions) will be diminished by famine. Again the astrologer expresses what must have been the desires of Andronicus IV in the summer of 1374 after he had been imprisoned by his father and partially blinded at the insistence of the Ottoman Sultān, Murāt I, a year before.

It is clear, therefore, that this astrologer favored the cause of Andronicus IV at least from 1373 to 1376; and, if he is indeed identical with the Abramius who practiced magic against John V in 1371 (in which connection it must be remembered that the hostility between John V and his son Andronicus IV goes back at least till 1370, when the latter refused to remit to his father in Venice the funds required for his return to Constantinople), then his adherence to Andronicus' cause must be traced back at least to the beginning of the discord in the imperial family. But he was busy with other tasks besides his practice of magic and astrology for the claimant to the throne.

In the 1360's the chief Byzantine champion of the Ptolemaic tradition in astronomy was the monk Isaac Argyrus.<sup>33</sup> Among his works are a Πραγματεία

<sup>32</sup> λείψις MS.

<sup>33</sup> Isaac, who was born (probably in Thrace) about 1310, wrote a large number of mathematical and astronomical works, including a *Computus* addressed to Andronicus Oenaeotes in 1372/3 (imperfectly edited by D. Petavius, *Uranologion* [Paris, 1630], 359–83, an edition reprinted by Migne, *Patrologia Graeca*, 19, cols. 1279–1316); a treatise on the astrolabe written in 1367/8 (published by A. Delatte, *Anecdota Atheniensia et alia*, 2 [Paris, 1939], 236–53); a work on geodesy dedicated to one Colybas, who was in Mitylene; scholia on Ptolemy's *Geography* and on John Philoponus' work on the astrolabe; a treatise on square numbers; another on reducing triangles to right triangles, written in 1367/8; and the works mentioned in the text. He is not the author of the *Παράδοσις εἰς τοὺς Περσικοὺς κανόνας*; see G. Mercati, *Notizie di Procoro e Demetrio Cidone, Manuele Caleca e Teodoro Meliteniota, ed altri appunti per la storia della teologia e della letteratura bizantina del secolo XIV*, Studi e Testi, 56 (Vatican City, 1931), 175. Nothing is known of him after 1373. The only other references to Argyri in the fourteenth

νέων κανονίων, in which he recomputes for the Roman calendar and the longitude of Byzantium the tables of mean motions of the Sun, Moon, and planets given in Ptolemy's *Σύνταξις μαθηματική* according to the Egyptian calendar and the longitude of Alexandria; and a *Πραγματεία νέων κανονίων συνοδικῶν τε καὶ πανσεληνιακῶν*, in which he performs the same transformation for Ptolemy's tables of the syzygies of the luminaries. The epoch of both these works is 1 September 1367.<sup>34</sup>

In Laurentianus 28,14, on folios 18–30<sup>v</sup> is an anonymous astronomical treatise entitled *Διὰ συντόμων εὑρεσις κατὰ τὸν ζητούμενον Ῥωμαϊκὸν μῆνα τοῦ ἐνισταμένου ἔτους τοῦ τε τόπου καὶ τοῦ χρόνου τῶν συνόδων καὶ τῶν πανσεληνίων*. The methods and the tables of the bulk of this treatise are taken directly from the two works of Argyrus mentioned above; but the author refers in chapter fifteen to the date 10 June 1374, which began the year 776 of the Hijra, and in chapters seventeen and nineteen discusses the astronomical details of the lunar eclipse of 22 August 1374, for which the horoscope mentioned above was cast. Moreover, the epoch for the planetary tables in this work is 1 March 1376. The author is very cautious in referring to his source; in Laurentianus 28,14, where his name should appear, the scribe has left a blank space; and in the only other copy of the anonymous work, Vaticanus gr. 208,<sup>35</sup> one finds a grudging reference *το τις τοῦνομα Ἰσαὰκ τὸ σχῆμα μοναχός*. His reluctance forthrightly to name Isaac Argyrus may be due not only to professional jealousy, but also to political animosity; for in 1372/3 Isaac had dedicated his *Μέθοδοι λογικαὶ ἡλιακῶν καὶ σεληνιακῶν κύκλων* to Andronicus Oenaeotes,<sup>36</sup> whose adherence to the cause of John V and Manuel II is indicated by his having acted as John's ambassador to Venice in 1362,<sup>37</sup> by his correspondence with Manuel's friend, Demetrius Cydones, between 1369 and 1371,<sup>38</sup> and by his continuing friendship with Cydones till at least 1374/5.<sup>39</sup>

If political allegiance prevented the author of the anonymous astronomical treatise from clearly acknowledging his model, Isaac Argyrus, it may also explain the peculiar nature of his work. As Isaac represents the orthodox Ptolemaic tradition in astronomy that goes back to Manuel Bryennius, Theodore Metochites, and Nicephorus Gregoras, the so-far nameless astronomer crit-

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century that I have found is an Argyrus, archon of the churches of the clergy of Aenus, who was sued, together with his son, by John Manclabites on 28 May 1325 (Miklosich and Müller, 1, no. LXIII a, 132), and Nicetas Argyrus and Manuel Argyrus who both signed the declaration of December 1357 (*ibid.*, no. CLXVII, 368–75).

<sup>34</sup> The manuscripts of these two works available to the anonymous astronomer were Vaticanus gr. 208, fols. 5–11; Marcianus gr. 324, fols. 43<sup>v</sup>–45<sup>v</sup>; and probably Marcianus gr. 323, fols. 287<sup>v</sup> ff.

<sup>35</sup> Described in *CCAG*, 5,1;63–64; the anonymous work is on folios 13 ff. At the bottom of folio 15<sup>v</sup> is the note: *μή τις ἡμῖν ἐπιφύεσθω διὰ τὰ τοῦ Ἀργύρου κανόνια ἐν χρεῖα ὅπου δεῖ τούτων γενομένοις, ἀλλὰ κάκεινον καὶ τοὺς κατ' αὐτὸν εὐχέσθω ἡμῖν ἔμμεσθαι ταπεινωθέντα ἐν τοῖς ἀναγκαιοτέροις καὶ ὧν ἀνευ οὐδὲ ἔχρην ἡμῶν εἶναι. τὸ πᾶν γὰρ ἐν πᾶσι ἢ ἀλαζονεία ἀπ᾽όλλυσιν, ὡς καὶ πᾶν τῶν καλῶν ἢ ταπεινώσεως κτασθήσεται καὶ ἡ περὶ τὸν πλησίον ἐπιστροφή.*

<sup>36</sup> See *supra*, note 33.

<sup>37</sup> R. Predelli, *Diplomatarium Veneto-Levanticum II, Monumenti storici pubblicati dalla R. Deputazione Veneta di Storia Patria*, I, 9 (Venice, 1899), 82–85.

<sup>38</sup> *Démétrius Cydonès. Correspondance*, ed. R.-J. Loenertz, 2 vols., *Studi e testi*, 186 and 208 (Vatican City, 1956–60), 1, epist. 36, 68–70.

<sup>39</sup> *Démétrius Cydonès*, 2, epist. 141, 10–11.

icizes this tradition on the basis of the Islamic astronomical works introduced into Byzantium by Gregory Chioniades and popularized by George Chrysococces;<sup>40</sup> in fact his manuscripts contain as a representative of this Islamic tradition the Παράδοσις εἰς τοὺς Περσικοὺς κανόνας, apparently composed in 1352/3 as a first draft of the third book of Theodore Meliteniotes' Ἀστρονομικὴ τρίβιβλος.<sup>41</sup>

The criticism consists of the complaint that, in the course of the many centuries that have elapsed since Ptolemy wrote his *Almagest*, his tables of mean motions have become inaccurate. The evidence adduced for this statement is the existence of different parameters in the Islamic *zījes*. Our author proposes an elaborate program of observations of the planets and luminaries with an armillary sphere to correct the Ptolemaic parameters; his intention is admirable, but his abilities never allowed him to carry out the program. Instead he was content to compute eclipses by both the *New Tables*, which are based on Ptolemaic parameters, and the *Persian Tables*, that is, those in Meliteniotes' work. The inference, then, is that the results are to be compared with the observed phenomena, and the appropriate conclusions drawn; there is no evidence that this program either was ever carried out.

However, folios 33–33<sup>v</sup> of Laurentianus 28,14 contain a long list of such dual computations for thirteen lunar and solar eclipses dated between 17 July 1376 and 1 January 1386; this last eclipse will be met with again in our investigation. Below this, on folio 33<sup>v</sup>, is a bare list of the dates of six eclipses occurring between 16 June 1387 and 29 April 1390, and on folio 9 a continuation of this list with twenty more eclipses between 5 April 1391 and 19 October 1408; the eclipse of 5 April 1391 will also crop up again in our investigation. At the bottom of folio 9 are given the positions of the planets on 31 December 1391.<sup>42</sup> The whole ensemble bespeaks an intense interest in eclipse theory on the part of the members of this school of astronomers and astrologers, beginning with its

<sup>40</sup> For the details of these two traditions, see D. Pingree, "Gregory Chioniades and Palaeologan Astronomy," *Dumbarton Oaks Papers*, 18 (1964), 133–60.

<sup>41</sup> Laurentianus 28,13, fols. 2–89 and Laurentianus 28,16, fols. 3–23 and 27–106<sup>v</sup>. It is interesting to note that the unique manuscript of the whole of Meliteniotes' work, Vaticanus gr. 1059 (in which it occupies folios 228–447), copied by John Chortasmenus in the second decade of the fifteenth century, contains on folios 78–89 the two Πραγματεῖαι νέων κανονίων of Isaac Argyrus copied directly from Vaticanus gr. 208.

<sup>42</sup> τῇ λα' Δεκεμβρίου τῆς ιε' ἰνδικτιῶνος, κγ' δὲ Φαρουαρτίν, εὐρέθησαν πάντες οἱ ἀστέρες οὕτως. Κρόνος στηρίξει δ' μοίρα, Ζεὺς Τοξότη κ', Ἄρης Τοξότη κε', Ἥλιος Αἰγοκέρωτι ιη', Ἀφροδίτη Ἰχθύσι γ', Ἑρμῆς Τοξότη κα', Σελήνη δὲ Ἰχθύσι ις'. πάντες προποδίζοντες πλήρεις [?], Κρόνος δὲ ἐγγὺς τοῦ ὑποποδισμού. Ζεὺς, Ἄρης, Ἑρμῆς ἐξοὶ ἀνατολικοί.

December 31 was 23 Farwardīn in 1388–91, and the Byzantine year 6900, which began 1 September 1391, was the fifteenth indiction. The planetary positions confirm the date 31 December 1391, though the scribe has written down the wrong zodiacal sign for Jupiter:

	<i>Text</i>	<i>Computation for 9 A.M. 31 December 1391</i>
Saturn	— 4 <sup>o</sup> retr.	Libra 5 <sup>o</sup>
Jupiter	Sagittarius 20	Capricorn (!) 19
Mars	Sagittarius 25	Sagittarius 25
Sun	Capricorn 18	Capricorn 19
Venus	Pisces 3	Pisces 0
Mercury	Sagittarius 21	Sagittarius 26
Moon	Pisces 16	Pisces 16

founder, the astrologer of Andronicus IV, and continuing into the first decade of the fifteenth century.

We have mentioned before our theory that the astronomer and astrologer of Andronicus IV was John Abramius, the scribe of Laurentianus 28,13 and 28,16. It is the latter manuscript that will provide further clues allowing us to strengthen our hypothesis. A poem on folio 2<sup>v</sup> of Laurentianus 28,16 informs us that John Abramius finished copying it in 1382; the marginalia, also in his hand, include comments which indicate that he continued to use the manuscript for professional purposes until at least 1390.

On folio 151, to the text's statement that the Sun's lordship of a tetartemorian indicates the love and friendship of kings, Abramius remarks: ἄληθές εἶδομεν γεγόναι ἐν τῇ Βυζαντίδι τῷ ῥωπῇ ἔτει ἐπὶ τῆς βασιλείας Ἰωάννου τοῦ Παλαιολόγου καὶ τῶν αὐτοῦ υἱῶν Μανουὴλ καὶ Ἀνδρονίκου.<sup>43</sup> This clearly refers to a reconciliation between John V and his second son Manuel II on the one hand and John's eldest son Andronicus IV on the other in the year 6888—that is, between 1 September 1379 and 31 August 1380. Such a reconciliation at this time is difficult indeed to imagine. Our scanty sources are usually interpreted as indicating a civil war between the two parties beginning in June 1379; a truce between the Turks, who supported John V, and the Genoese, who supported Andronicus, was arrived at in April 1381, and a peace treaty between John V on the one side and Andronicus IV and his son John VII on the other was signed in May 1381. The terms of this treaty deprived Manuel II of his right to the succession first affirmed on 25 September 1373, and led to his establishment of a "New Empire" at Thessalonica which lasted from 1382 till 1387. The scholium may mean that an accord between John V and his two sons had been arrived at unofficially in 1380, but that Andronicus' allies, the Genoese, had insisted on the exclusion of Manuel from the succession to the throne. Manuel's trip to the Ottoman court immediately after the treaty of May 1381 may, then, have represented an attempt to persuade the Turks to support his claims against those of Andronicus.

On folio 123 is found another interesting scholium of Abramius:<sup>44</sup> ἔτους ῥωσδ μηνὶ Ἰαννουαρίῳ α' κατὰ τὴν β' τρίωρον ἐγένετο ἔκλειψις Ἡλίου κατὰ τὸν Αἰγοκέρωτα, καὶ ὄλος ἐφάνη ἀμαυρός. καὶ ὄντος μου ἐν Ἀλεξανδρείᾳ παρὰ τοῦ βασιλέως ἀπεσταλμένου ὠνῆς ἱατρικῶν εἰδῶν ἔνεκεν, οὕτω τοῦ μηνὸς τέλεον ἐξελθόντος, αὐτίκα ἐπανέστη κατὰ τοῦ Σουλτάνου Ἀμηνῆς αὐτοῦ μέγας καὶ ἀπέδρα, πεσὼν κατὰ τὰ πεδῖον (sic) μετὰ καὶ τῶν ὑπ' αὐτόν, προσκαλούμενος αὐτόν εἰς πόλεμον· ὁ δὲ οὐ μετρίως ἐθορυβήθη.<sup>1</sup> On examining this interesting account we first recall that the solar eclipse of 1 January 1386 was the last of the eclipses for which dual computations were made on folio 33<sup>v</sup> of Laurentianus 28,14.<sup>44</sup> Secondly, we remark that John Abramius' qualifications as a physician (which make him even more comparable to Gregory Chioniadēs and George Chrysococces) are also attested by his having copied

<sup>43</sup> Previously published by G. Mercati, *Scritti d' Isidoro il cardinale Rutenio*, Studi e testi, 46 (Rome, 1926), 98 note 1.

<sup>44</sup> This eclipse is no. 6178 in von Oppolzer's canon of solar eclipses (as in note 29, *supra*, 248–49); its maximum was at 12:14 P.M. in Alexandria, which is indeed in the second three-hour period of daylight. The longitude of the Sun was Capricorn 20°.

the medical manuscript Nanianus gr. 247 (now Marcianus App. Cl. V, 13) on 18 September 1376.<sup>45</sup> The revolt of the Amīr against the Burjī Mamlūk Sulṭān, Barqūq (1382–89 and 1390–98), is also of historical interest. But most fascinating is to speculate on the identity of the βασιλεύς who despatched John Abramius to Alexandria in the fall of 1385 to purchase medicines.

It is difficult to discover the state of health of John V or that of members of his court in this period, though he was certainly an old man. His son Manuel was apparently in good health, and, in any case, was busy defending the walls of Thessalonica against the Turkish forces. Andronicus IV had died after a short illness on 28 June 1385 in Selymbria, but his son, later John VII, continued to hold court there under the aegis of the Ottoman ruler. In view of the next scholium which we shall examine, I believe that it was John VII or a member of his court who was so ill in late 1385 that it was felt necessary to send Abramius to Egypt.

This scholium is found on folio 153:<sup>46</sup> εἶδον ἐν τῷ αὐτῷ βιβλίῳ τοῦ Ἀπομάσαρ καὶ τοῦτο· ἐὰν εὗροις ἐν τῇ τοῦ ἔτους ἐναλλαγῇ τὸν κύριον τοῦ μεσουρανήματος ἢ τὸν κύριον τοῦ ὠροσκόπου ὕπαυγον ἢ ἀναποδίζοντα, ἢ τύχη ἐν τῷ μεσουρανήματι τῆς ἐναλλαγῆς κακοποιὸς ἀναποδίζων, σημαίνει διαδοχὴν. διὸ καὶ παρατηρητέον· παρετηρήθη καὶ ἀληθές. τῷ γὰρ ὧρη ἔτει κατὰ τὴν ἑαρινὴν ἰσημερίαν ἐμεσουράνει ἰχθύες ις', ὁ κύριος τοῦτου Ζεὺς ἐν τῷ 5' τόπῳ ὑποποδίζων· ἐν ᾧ καὶ διεδέχθη κύριος Ἰωάννης βασιλεὺς ὁ Παλαιολόγος.<sup>47</sup> The quotation probably comes from the Μυστήρια of Abū Ma'shar preserved uniquely in Angelicus gr. 29,<sup>47</sup> a manuscript copied by Abramius' pupil Eleutherius Elius, whom we shall discuss below; unfortunately I have not yet located it in that vast, unpublished text. The astronomical conditions noted in the scholium were satisfied on the day of the vernal equinox of 6898, that is on 12 March 1390; for Jupiter was beginning to retrograde in Sagittarius 4°, and, if Pisces 16° was the midheaven, Jupiter in Sagittarius 4° was in the sixth place. But most important is the mention of the succession of the βασιλεύς John VII, which obviously refers to his brief usurpation of power in Byzantium from 14 April to 17 September 1390. This passage proves that Abramius, if he is the astrologer who cast the horoscopes mentioned above, remained loyal to the house of Andronicus IV from 1371 or 1373 till at least 1390.

The last bit of evidence supporting the thesis that the anonymous astrologer and astronomer was indeed John Abramius is found on folio 275 of Laurentianus 28,16. This contains a catalogue of thirty fixed stars that were used in genethliology, copied by Abramius directly from folio 130<sup>v</sup> of Vaticanus gr. 208, the manuscript from which the anonymous astronomer derived his knowledge of Isaac Argyrus' two Πραγματεῖαι νέων κανονίων and in which his own treatise is transcribed (the catalogue is also found on folio 275 of Laurentianus 28,14).<sup>48</sup>

<sup>45</sup> G. L. Mingarelli, *Graeci Codices Manu Scripti apud Nanios Patricios Venetos Asservati* (Bologna, 1784), 438. It is noteworthy that this manuscript, like that which Demetrius Chlorus is alleged to have written, contains excerpts from the *Coeranides*; see C. O. Zuretti in *Catalogue des manuscrits alchimiques grecs*, 2 (Brussels, 1927), 263–78.

<sup>46</sup> Previously published by Mercati, *Scritti*, 97 note 2.

<sup>47</sup> See *infra*, note 54.

<sup>48</sup> See Appendix II.



The main difference is that the longitudes of the stars in Vaticanus gr. 208 are computed for 1329, while John has recomputed them for 1389. His procedure is described in a lengthy marginal note:

Ἰστέον ὅτι οἱ τοιοῦτοι ἀπλανεῖς ἀστέρες ὡς μὲν τῷ Πτολεμαίῳ δοκεῖ κινεῖνται κατὰ ῥῆτη μοῖραν ᾱ, ἡγουν λεπτὰ λζ' δεύτερα κατ' ἔτος, ἕκαστος· ὡς δὲ τοῖς Πέρσαις δοκεῖ ἡκριβωκόσι τὸ περὶ τῆς αὐτῶν κινήσεως, φησὶ κινεῖσθαι τούτους τὴν αὐτὴν μοῖραν ᾱ εἰς χρόνους ξς,<sup>49</sup> ὡς κινεῖσθαι κατ' ἔτος ἕκαστον αὐτῶν λεπτὰ δεύτερα νδ' καὶ τρίτα λγ' ἐγγιστα. φασὶ δὲ καὶ τοῦτο, ὅτι οὐκ ἐπελογίσαστο περὶ τῆς αὐτῶν κινήσεως ἀκριβῶς ὁ Πτολεμαῖος· καὶ διὰ τοῦτο ὑπέθετο κινεῖσθαι τούτους τὴν ᾱ μοῖραν τὰ ῥῆτη.

Διὰ τοῦτο τοίνυν καὶ ἐξετέθη παρ' ἡμῶν ἡ κατὰ μῆκος αὐτῶν ἐποχὴ κατὰ τὴν ἀρχὴν τοῦ ςωσζ' ἔτους ὡς οἱ Πέρσαι φασὶν ἐπειδήπερ ἐν πολλοῖς εὑρομεν βιβλίοις τὰς τούτων κινήσεις οὕτως ἐκτεθειμένας, ἀλλὰ καὶ τῇ πείρᾳ σύμφωνον εὑρομεν. ἐν γὰρ τῷ αὐτῷ ἔτει τῆς ιβ' Ἰνδικτιῶνος μηνὶ Μαρτίῳ β', τοῦ Ἡλίου ἐπέχοντος τῶν Ἰχθύων μοίρᾳ κ, διοπτεύσαντες ἕνα τῶν τοιούτων ἀπλανῶν, τὸν Νότιον Στέφανον, ἐπέχοντα τοῦ Σκορπίου ζ' μην', εὑρομεν ἀναφορὰν τούτου κγ. κινήσαντες οὖν τὸ ἐν τῇ ἀράχνῃ μοιρογνωμόνιον τοῦ τοιούτου ἀστέρος καὶ θέντες εἰς τοὺς ἀπ' ἀνατολῆς κγ' παραλλήλους ἐν τῷ διὰ Βυζαντίου κλίματι εὑρομεν ὥρας νυκτερινὰς ἰσημερινὰς γ' ἡμισυ, ὅσαι δὲ καὶ ἀπὸ τοῦ ὥρολογείου ἡκούθησαν (sic). οὐ μόνον δὲ τοῦτον ἀλλὰ καὶ ἄλλους διοπτεύσαντες ὁμοίως εὑρομεν, ὥς δῆλον ὡς οὕτως ἔχει τὸ ἀκριβές· εἰ γὰρ, ὡς ὑπέκειτο ὁ τοιοῦτος, κατὰ τὴν κζ' τοῦ Ζυγοῦ καὶ τὸ αὐτὸ ἔτος κινήθει τὸ τούτου μοιρογνωμόνιον εἰς κγ' παραλλήλους, οὐκέτι ἔσονται ὥραι γ' ἡμισυ, ἀλλὰ β' Γ', ὅπερ οὐκ ἀληθές, ὡς ἐντεῦθεν συμβαίνειν ἐκπίπτειν ἡμᾶς τοῦ ἀληθοῦς ὥρας μέρη Γ' καὶ ι'. καὶ τοίνυν καὶ ὃν κατὰ τὸ αὐτὸ ἔτος κατεσκευασθὲν ἀστρολάβον οὕτω τὰς τῶν ἐν αὐτῷ καταγεγραμμένων ἀστέρων ἐκτεθειμένας ἐποχὰς ἔχει.<sup>k</sup>

John Abramius' procedure in this correction of the Ptolemaic parameter of precession is fully consistent with that of the anonymous astronomer: Ptolemy's parameter is first questioned on the basis of an Islamic value, and then an attempt is made to confirm the Islamic value by observation. In the case of solar and lunar motion the observation led to nothing; in that of precession it was successful. Technically, John's procedure is adequate to detect the large accumulated discrepancy between the Ptolemaic and the Islamic longitudes of the fixed stars, but not precise enough to establish definitively the Islamic parameter for precession. It is especially vitiated by his many errors. It was not the Southern Crown which he observed but the Northern Crown (α Coronae Borealis), the fifth star in his catalogue where its longitude is given as Scorpio 3;48° rather than 6;48° as he claims to have used in his observation. According to Ptolemy the longitude of this star was Libra 14;40° in A.D. 137; the 1,250 years that had elapsed till 1389 mean that its longitude in that year according to Ptolemy's rate of precession would be Libra 27;10° (Abramius rounds this off to Libra 27°), according to the Islamic rate of precession Scorpio 3;36°—far from Abramius' 6;48°. I suspect that the confusion arises from Abramius' having used the pointer of the Southern Claw (α Librae) on the rete of his astrolabe, and his having mistaken this for the Southern Crown which he ridiculously identified with the Northern Crown. For Ptolemy's longitude of the Southern Claw

<sup>49</sup> See *Dumbarton Oaks Papers*, 18 (1964), 138.

in A.D. 137 was Libra 18°; at the Islamic rate of precession its longitude in 1389 would be Scorpio 6;56°, very close to Abramius' Scorpio 6;48°.

After this examination of Abramius' prowess as an astronomical observer, we must turn to his abilities as an editor of astrological texts. For the manuscripts copied by him and the other members of his school are of extreme importance because of their preservation of rare astrological as well as astronomical treatises. In Vaticanus gr. 208, folios 133–225<sup>v</sup>, are found the following works: Ptolemy's Ἀποτελεσματικά,<sup>50</sup> the pseudo-Ptolemaic Καρπός,<sup>51</sup> and Ptolemy's Περὶ ὑποθέσεων τῶν πλανωμένων.<sup>52</sup> The first two works in the same order and in the same recensions are found on folios 297–357<sup>v</sup> of Laurentianus 28,16; all three works appear in the same order and in the same recensions on folios 156–199<sup>v</sup> of Marcianus gr. 324,<sup>53</sup> a manuscript apparently belonging to the school of John Abramius, and on folios 279<sup>v</sup>–334<sup>v</sup> of Angelicus gr. 29,<sup>54</sup> of which the copying of the first 152 folios was completed in Mitylene on 24 July 1388 by Eleutherius Elius, who was evidently John Abramius' associate, and probably his pupil. The texts of the Ἀποτελεσματικά and of the Καρπός in these manuscripts represent peculiar recensions in which both the grammar and the logic of the order of the presentation of technical material has been subjected to alteration, and in which some interpolations appear. The editor of these recensions appears to be John Abramius himself.

Most of the manuscripts of Abramius' school also contain a vast compilation entitled Ἐκ τῶν Ἡφαιστίωνος τοῦ Θηβαίου ἀποτελεσματικῶν καὶ ἐτέρων παλαιῶν. It is found in Marcianus gr. 324, fols. 49–147<sup>v</sup>; in Laurentianus 28,13, fols. 99–240; in Laurentianus 28,14, fols. 34–177<sup>v</sup>; and in Laurentianus 28,16, fols. 108–255. This work is a compilation, apparently made by Abramius, of excerpts primarily derived from the Ἀποτελεσματικά of Hephaestio of Thebes, from the several works of Theophilus of Edessa, and from the iatromathematical collection preserved, inter alios, in the eleventh-century manuscript, Laurentianus 28, 34.<sup>55</sup> A comparison of the excerpts from Hephaestio with the original text of that author demonstrates that Abramius has felt free to make extensive changes, omitting long passages, adding many others, and altering both the expression and sometimes the contents of a large number of passages. Only the fact that the manuscript tradition of the original text of Hephaestio's work is so poor makes Abramius' extracts useful.

It is much more dangerous to depend on him when his manuscripts alone preserve a text. The enormous Εἰσαγωγή καὶ θεμέλιον εἰς τὴν ἀστρολογίαν in four books, ascribed to Aḥmad the Persian, is one such work. The principal copy of

<sup>50</sup> Eds. F. Boll and E. Boer (Leipzig, 1940); Abramius' recension is family γ.

<sup>51</sup> Ed. E. Boer (Leipzig, 1952); Abramius' recension is family γ.

<sup>52</sup> Ed. I. Heiberg, *Claudii Ptolemaei... opera astronomica minora* (Leipzig, 1907), 70–106; Abramius' manuscripts are part of family A.

<sup>53</sup> Described in *CCAG*, 2;4–16.

<sup>54</sup> Described in *CCAG*, 5;1;4–57. Two rhetorical manuscripts transcribed by Eleutherius are bound together in Vaticanus gr. 899. Folios 1–60<sup>v</sup> were copied on Rhodes and completed 8 August 1393; folios 98–118 were copied on Euripus (Euboea) and completed 15 February 1382. See A. Turyn, *Codices Graeci Vaticani Saeculis XIII et XIV* (Vatican City, 1964), 171–72.

<sup>55</sup> Described in *CCAG*, 1;60–72. The excerpts from Hephaestio are edited as Epitoma IV in vol. 2 of our forthcoming edition of Hephaestio.

it that we have is Marcianus gr. 324, fols. 202–280, though fortunately a large portion of it is also found in the sixteenth-century Ambrosianus C 37 sup., fols. 18–136<sup>v</sup>, and much of the original Arabic survives. On folios 152<sup>v</sup>–279 of Angelicus gr. 29, which, as we have seen, was written by Abramius' pupil Eleutherius Elius, is found another compilation put together from three sources: the Ἐκ τῶν Ἡφαιστίωνος τοῦ Θηβαίου ἀποτελεσματικῶν καὶ ἑτέρων παλαιῶν from Marcianus gr. 324, fols. 49–147<sup>v</sup>; the Εἰσαγωγή of Aḥmad from folios 202–280 of the same manuscript; and a collectaneum of the eleventh century which is at least partially found in Laurentianus 28,14, fols. 170–315. In connection with this last source it is noteworthy that it was apparently Laurentianus 28,14, fols. 34–212 that Eleutherius copied in Taurinensis C VII 10, fols. 7–73<sup>v</sup>, a task which he finished in Mitylene on 28 March 1389. From these facts we can conclude that Abramius and his pupil Eleutherius were in Mitylene in 1388/9; one suspects that they were there during much of the time that Constantinople was controlled by the enemies of Andronicus IV and John VII.

Eleutherius' manuscript Angelicus gr. 29, in its first 152 folios, contains three important texts. On folios 1–9 is the Ἐπιστολή ἐκδοθεῖσα παρὰ τοῦ αἰοδίδμου καὶ ἀγίου βασιλέως τοῦ πορφυρογεννήτου κυροῦ Μανουήλ τοῦ Κομνηνοῦ,<sup>56</sup> in which the Emperor defends the practice of astrology. This was a treatise that should have interested John Abramius as an astrological advisor to Andronicus IV; and indeed we find it on folios 312–315<sup>v</sup> of Marcianus gr. 324 as well as on folios 19–21<sup>v</sup> of John Chortasmenus' Vaticanus gr. 1059, which we know to have close connections with Abramius' Vaticanus gr. 208.

Folios 10–91 of Angelicus gr. 29 contain the unique exemplar (save for some apographs<sup>57</sup>) of the Ἀποτελεσματικὴ βίβλος τῶν μυστηρίων of Abū Maʿshar, a work to which Abramius frequently refers in his marginal scholia in Laurentianus 28,16. The Μυστήρια consists of three books: the first is collected from various of Abū Maʿshar's works, the second is a Greek version of the *Mudhākarāt* of his pupil Shādhān, and the third is a shortened recension of his *Madkhal al-kabīr*. Fortunately the Arabic originals of these works survive and provide a check on Eleutherius' text.

We are not so fortunate with regard to the next work, on folios 91–152 of Angelicus gr. 29. This is inscribed: Ἀποτελεσματικὴ βίβλος τοῦ Πάλχου, and contains a number of fragments of Hellenistic astrological texts mixed in with

<sup>56</sup> Edited by F. Cumont in *CCAG*, 5,1;106–25.

<sup>57</sup> Folios 1–152 of Angelicus gr. 29 were copied twice in the fifteenth century; the manuscripts are Laurentianus 28, 36 (102 fols.) and Ambrosianus B 38 sup. (146 fols.). Moreover, Leningrad Bibl. Acad. Sci. XX. Aa–II, fols. 194–201<sup>v</sup> (a manuscript once at Iviron on Mt. Athos) was copied from it in 1448, and Bononiensis Bibl. Univ. 3632, fols. 272–73 and 280–81 and Oxoniensis Barocci 94, fols. 68–75<sup>v</sup> were also transcribed from it in the fifteenth century. From this last manuscript were copied Vindobonensis hist. gr. 122, fols. 33–43<sup>v</sup> in the sixteenth century and Leiden Voss. gr. F 9, fols. 1–8<sup>v</sup> in the sixteenth or seventeenth century. In the early sixteenth century Angelicus gr. 29 belonged to George, Count of Corinth, in Venice, where it was three times copied by Nicolaus Murmuris, a scribe from Nauplia, in the Morea, in the employ of Don Diego Hurtado de Mendoza from 1541 to 1543 (see C. Graux, *Essai sur les origines du fonds grec de l'Escorial* [Paris, 1880], 190 and 266–67). The three manuscripts are:

1. Laurentianus 28, 33 (314 fols.). The copying was finished on Friday 16 February 1543.
2. Vaticanus gr. 1057 (170 fols.). The copying was finished on Tuesday 20 February 1543.
3. Scorialensis Φ. I. 5, fols. 210–382. The copying was finished on Friday 23 March 1543.

material derived from Arabic. The name Palchus also raises a question about the alleged authorship, as it occurs in only one other place: in a catalogue of books included in the *Mudhākarāt* of Shādhān, and therefore in the second book of Abū Maʿshar's *Μυστήρια*. In the original Arabic he is called simply tarjumān al-Balkhī—the translator from Balkh. Palchus, then, is not a *nomen personae*, but a *nomen ethnicum* indicating the city from which the unnamed author is alleged to have come.

But the compendium ascribed to Palchus, as noted before, is a mixture of Hellenistic and early Byzantine texts with Greek translations from the Arabic; it could not be due to anyone from Balkh, but only to a man, such as Eleutherius, who had access to both genuine early Greek texts and Byzantine translations of Arabic texts. That Eleutherius did indeed compile the work and deliberately attribute it to the non-existent Palchus is demonstrated by the fact that some of the chapters which appear in this compilation ascribed to Palchus are taken directly from the eleventh-century compendium which he had also used in compiling the material on folios 152<sup>v</sup>–279 of Angelicus gr. 29. The pseudo-Palchus has been regarded as one of our most important sources for the history of Greek astrology under the Roman Empire; it is now apparent that its information must be treated with extreme scepticism until Eleutherius' sources and methods of editing can be fully studied.

Now we must turn to the final member of Abramius' school, a man known only as Dionysius, who evidently studied under Eleutherius. On folio 26 of Laurentianus 28,16 is found a Σύντομος μέθοδος περὶ τοῦ εὐρίσκειν τὸν ἥλιον ἐν ποίῳ ζῳδίῳ καὶ ἐν ποίῳ μοίρῳ καὶ λεπτοῖς ὑπάρχει· μέθοδος Ἐλευθερίου τοῦ ἐμοῦ διδασκάλου Διονυσίου. There follow on folios 26–26<sup>v</sup>, written by the same hand, chapters on finding the longitudes of the Moon, the five planets and the ascending node; all presuppose the use of the so-called "Persian Tables" of George Chrysococces.

The same hand is observed again writing various parts of Berolinensis gr. 173.<sup>58</sup> Dionysius has copied many chapters of Chrysococces' Ἐξήγησις on folios 75–80<sup>v</sup>, 122–122<sup>v</sup>, and 127–129<sup>v</sup>. On folio 121 he has copied the horoscope cast at the beginning, evidently, of a journey on 12 April 1396.<sup>59</sup> On folio 123 is a

<sup>58</sup> Described in *CCAG*, 7:48–63.

<sup>59</sup> Above the diagram is written: ἔτους ͵ζαδ̄ ἰνδικτιῶνος δ' Ἀπριλλίου ιβ' ἐρώτησις περὶ ταξιδίου. The planetary positions confirm the date:

	<i>Text</i>	<i>Computation for 12 April 1396</i>
Saturn	Scorpio 19;32 <sup>0</sup>	Scorpio 20 <sup>0</sup>
Jupiter	Gemini 3;47	Gemini 3
Mars	Aries 16;32	Aries 17
Sun	Taurus 0;51	Taurus 1
Venus	Taurus 16;38	Taurus 17
Mercury	Taurus 11;5	Taurus 7
Moon	Gemini 19	Gemini 19
Lunar node	Capricorn 11;31	Capricorn 11
Ascendent	Gemini 5	ca. 8 A.M.
Lot of Fortune	Cancer 24	
Lot of Travel	Pisces 9	
Second Lot of Travel	Aries 16	

text which begins: ἐψηφοφορίθη (sic!) παρὰ τοῦ διδασκάλου μου κυροῦ Ἐλευθερίου ἡ παρελθοῦσα ἐκλειψις Ἡλίου ἡ γέγονεν ἐν ἔτει <ζω>ϛθ, κατὰ δὲ Πέρσας ψξ, ἔχων (sic!) ὁ Τέρμας κη' κατὰ Πέρσας, κατὰ δὲ Ἑλληνας ὁ Ἀπρίλλιος ε'.<sup>1</sup> The date of this solar eclipse is in fact 5 April 1391, an eclipse which we have seen previously at the head of the list on folio 9 of Laurentianus 28,14. But the details of the two notices do not strictly coincide, a circumstance most probably due to the fact that one is computed with Ptolemaic parameters, the other with Islamic. On folio 123<sup>v</sup> of Berolinensis gr. 173 Dionysius has computed the latitudes of the planets on 28 April 1396.

But Dionysius' most interesting statement in this manuscript is found on folio 138 as an addendum to what Loenertz has called the *Chronicon breue Thessalonicense*:<sup>60</sup> ἐν ἔτει ζα' μηνὶ Ἰουλίῳ κη' ἡμέρᾳ ζ' ἐνίκησεν ὁ Τουμυρλὰς τὸν Ἀμυρᾶν κατὰ κράτος, καὶ εἶλεν τὰς αὐτοῦ πόλεις καὶ χώρας καὶ λεηλάτησεν αὐτάς, ὅτε καὶ ἐγὼ ὁ Διονύσιος εὐρέθην τηνικαῦτα ἐν Κωνσταντινουπόλει· καὶ εἶδον θέαμα ξένον, ὅπως ἅπαν γένος καὶ ἔθνος καὶ γλῶσσα ἔφθασεν φυγὰς ἐν Κωνσταντινουπόλει. τότε γὰρ καὶ γέγονεν σεισμός ἐκεῖσε μέγας, καὶ κεραυνὸς ἔπεσεν ἐν τῇ ἱερᾷ μονῇ τῆς Περιβλέπτου, καὶ ἔκαυσεν ἐκεῖσε εἰκόνας καὶ ποδέας καὶ ἄλλα τινά, καὶ ἐκ τῶν μοναχῶν περικεφαλαίας ἤγουν καμηλαῦχα.<sup>m</sup> It is of interest to note that Dionysius was in Constantinople, where he learned of Tīmūr's defeat of Bayazid I on 28 July 1402 near Ankara, precisely at the time when John VII was acting as regent in that city during Manuel II's travels in the West.

We have seen that the founder of this school of astrologers, John Abramius, was astrological advisor to Andronicus IV in his rebellion against his father John V and his brother Manuel II; and that he also attempted, unsuccessfully, to revise Ptolemaic astronomical parameters on the basis of his own observations inspired by his knowledge of the Islamic material translated into Greek by Gregory Chioniadēs between 1298 and 1302. Further, we have seen that he and his pupil, Eleutherius Elius, transcribed, revised, conflated, and composed astrological treatises, including several whose intact preservation we owe entirely to these two. Finally, we have noted that Eleutherius' pupil, Dionysius, carried the work of the school into the fifteenth century; it was continued by John Chortasmenus and, in the middle of the century, by the great Cardinal, Isidore of Kiev. Much still remains to be done, however, in the exploration of the numerous manuscripts left to us by these industrious scholar-scribes.

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Below the horoscope is written:

Διότι ὁ Ζεὺς ἀγαθοποιὸς ἀσπὴρ ἐν ὥροσκόπῳ ἀκάκωτος, δῆλον ὅτι ἐν πᾶσιν ἔστιν ἄριστος καὶ εἰς τὴν ζωὴν τοῦ ἔρωτῶντος. καὶ διότι ὁ κληρὸς τῆς τύχης ἐν τόπῳ καλῷ καὶ ὁ κύριος αὐτοῦ ἡ Σελήνη ἀκάκωτος, καλὸν δηλοῖ. καὶ διότι ὁ Ἀναβιβάζων ἐν τῷ η' τόπῳ, διότι δὲ ἡ Σελήνη ἐν τῷ ὥροσκόπῳ καὶ ὁ Ἄρης ἐν τόπῳ τῆς εὐτυχίας, ἐλαττοῖ τὰ καλὰ ταῦτα.

<sup>60</sup> Edited by Loenertz in *Démétrius Cydonès*, 1, 174–75; Dionysius' note is also edited in *CCAG*, 7; 58 note 2.

## APPENDIX I

The heading of the horoscope on folios 290–91 of Laur. 28,14 is simply: *νυκτερινή γένεσις*, but to the side is written: *ψηφοφορία γεγονυία ἐπὶ τοῦ διὰ Βυζαντίου παραλλήλου τῷ ζῳῒ ἔτει ἐν μηνὶ Ἰαννουαρίῳ 1ζ' ὥρα μετὰ μεσημβρίαν 1α'.*<sup>61</sup> The positions of the planets in the horoscopic diagram confirm this date.

Below the horoscopic diagram (in which the longitudes are given only to the nearest minute and the latitudes are omitted) the positions of the planets are repeated: 'Ἡλίου ἐποχή 'Υδροχόου μοῖραι εἰς λε' ο' νγ' κς'. Σελήνης ἐποχή 'Υδροχόου μοῖραι εἰς κη' μβ' νς' ις', πλάτος δὲ λθ' νοτίας καταβάσεως. 'Αναβιβάλλοντος ἐποχή Ταύρου μοῖραι κζ' θ'. Καταβιβάλλοντος<sup>62</sup> ἐποχή Σκορπίου μοῖραι<sup>63</sup> κζ' θ'. Κρόνου ἐποχή Ταύρου μοῖραι γ' λζ' κθ', πλάτος νότιον β' κβ' μη'. Διὸς ἐποχή Παρθένου μοῖραι κα' ζ' ν', πλάτος βόρειον α' μδ' κδ'. 'Αρεως ἐποχή Ζυγοῦ μοῖραι κγ' λη' νς', πλάτος βόρειον α' μβ' να'. 'Αφροδίτης ἐποχή Ἰχθύων μοῖραι ιε' μζ' λγ', πλάτος βόρειον α' λδ' κβ'. 'Ερμού ἐποχή Αἰγοκέρως μοῖραι ι' να', πλάτος βόρειον β' κε' κη'.

The positions of the planets are:

	<i>Text</i>	<i>Computation for 17 January 1352</i>
Saturn	Taurus 3;37,29 <sup>0</sup>	2;22,48 <sup>0</sup> S. Taurus 3 <sup>0</sup> 2;21 <sup>0</sup> S.
Jupiter	Virgo 21;7,50	1;44,24 N. Virgo 20 1;27 N.
Mars	Libra 23;38,56	1;42,51 N. Libra 24 2;14 N.
Sun	Aquarius 5;35,0,53,26	Aquarius 5
Venus	Pisces 15;47,33	1;34,22 N. Pisces 14 3;16 N.
Mercury	Capricorn 10;51	2;25,28 N. Capricorn 10 1;8 N.
Moon	Aquarius 5;28,42,56,16	4;39 S. Aquarius 5 3;43 S.
Lunar node	Taurus 27;9	Taurus 27
Ascendent	Libra 18	ca. 11 P.M.
Lot of Fortune	Libra 17;54	

On folios 290<sup>v</sup>–291 the following interpretation is given:

Ὁ Κρόνος κέκριται ἐνταῦθα ἀφέντης ἐπειδὴ ἐν ἀφετικῷ τέ ἐστι τόπω, τῷ δυτικῷ κέντρῳ, καὶ ἐπὶ πρὸς τὸν τόπον τῆς Σελήνης λόγον ἔχει οἰκοδεσποτίας (ὃ τε γὰρ 'Υδροχόος οἶκος ἐστὶ τοῦ Κρόνου καὶ τρίγωνον, καὶ αἱ ἰ' μοῖραι τῆς ἐποχῆς αὐτῆς ὁρίαι εἰσι τοῦ Κρόνου), ὁμοίως δὲ καὶ πρὸς τὴν γεγονυῖαν πανσέληνον ἥτις γέγονεν ἐν τῷ Αἰγοκέρῳ (οἶκος γὰρ Κρόνου καὶ ὁ Αἰγοκέρως). ἀναιρέτης δὲ ἐστὶν ἐνταῦθα τὸ δυτικὸν κέντρον ἐπειδὴ ὁ ἀφέντης ἐν τῷ δυτικῷ τεταρτημορίῳ εὐρίσκεται. καὶ ἐπειδὴ τῇ ιη' τοῦ Κριοῦ ἐν ἣ ἐστὶ τὸ δυτικὸν κέντρον παράκεινται ἐπὶ τοῦ διὰ Βυζαντίου παραλλήλου χρόνοι καταφορικοὶ ῥπγ νγ', οἱ παρακείμενοι δηλονότι τῇ διαμετρούσῃ τὴν ιη' τοῦ Κριοῦ, τῇ δὲ διαμετρούσῃ ὁμοίως ταῖς γ' λ' τοῦ Ταύρου, τῇ ἐποχῇ δηλονότι τοῦ Κρόνου, χρόνοι σκγ' λ', ἐὰν ἀφαιρεθῶσιν ἀπὸ τῶν σκγ' λ' χρόνων οἱ ῥπγ νγ', λοιποὶ χρόνοι λθ' λζ'. ὑπαντήτῳ ἐνταῦθα σωματικῶς ἡ 'Αφροδίτη μετὰ γὰρ ἡμέρας ἐγγιστα συνοδεύσει τῷ Κρόνῳ. καὶ ἐπεὶ ὑπὸ γῆν ἐστὶ, λαμβάνεται κατὰ διάμετρον ἐν τῷ ὑπὲρ γῆν, ἡγουν κατὰ τὴν ις' τῆς Παρθένου, ἡ καὶ παράκεινται ὠριαῖοι χρόνοι ιε' νγ'. καὶ ἐπεὶ ἡ ις' τῆς Παρθένου δὲ ὥραις καιρικαῖς δίσταται τοῦ ὥροσκόπου, αἱ εἰσι δὲ ιβ' τῆς ἡμέρας, ἀφαιροῦνται ἐκ τῶν εἰρημένων ιε' νγ' ὠριαίων χρόνων ιβ' δὲ ἦτοι γ', τουτέστι χρόνοι εἰς ιη'. λοιποὶ χρόνοι ι' λε'. οὗτοι<sup>63</sup> προστίθενται τοῖς ἀνωτέρω χρόνοις λθ' λζ' καὶ γίνονται χρόνοι ν' ιβ'. ἐπεὶ δὲ καὶ ὁ 'Ερμῆς μαρτυρεῖ τῷ Κρόνῳ τριγωνίζων αὐτόν (ἐστὶ δὲ καὶ οὗτος ἐνταῦθα ἀγαθοποιός· συνοικεῖται γὰρ τῇ 'Αφροδίτῃ), καὶ διὰ τοῦτο λαμβάνεται καὶ οὗτος ἐν τῷ ὑπὲρ γῆν ἐν Καρκίνου μοῖραις ι' να', ἡ παράκεινται ὠριαῖοι χρόνοι ιη' νη'. καὶ τούτων τὸ ἡμισυ θ' κθ'· ὅ γὰρ ὥραις καιρικαῖς ἀφίσταται τοῦ ὥροσκόπου ἡ ια' τοῦ Καρκίνου ἐγγιστα. προστίθενται καὶ οὗτοι δὲ οἱ θ' κθ' χρόνοι τοῖς εἰρημένοις ν' ιβ'

<sup>61</sup> 'Αναβιβάλλοντος MS.

<sup>62</sup> μοιρῶν MS.

<sup>63</sup> οὗ MS.

καὶ γίνονται ὁμοῦ χρόνοι νθ μα'. καὶ καταλογίζονται βιώσιμα ἔτη νθ καὶ μῆνες η καὶ ἡμέραι 5.<sup>64</sup>

⟨Κ⟩ατὰ τὸν Ἡφαιστίωνα,<sup>65</sup> μᾶλλον δὲ τοὺς ἀρχαιοτάτους τῶν Αἰγυπτίων· ἐπεὶ ὁ ὥροσκόπος τῆς παρούσης γενέσεως ἐν τῷ β' δεκανῶ εὑρηται τοῦ Ζυγοῦ, λαμπρὸς καὶ πλούσιος καὶ ἀρχοντικός δηλοῦται ὁ ἐν τῇ γενέσει ταύτῃ, καὶ ἔκδημος τῆς πατρίδος ἐπ' ἐλπίσι χρησταῖς· κλιμακτῆρες δὲ αὐτοῦ εἰσιν ἡ ἐν τῷ θ' ἔτει ἡ ἐν τῷ ιβ' ἡ ἐν τῷ ιδ' ἡ ἐν τῷ λγ' ἡ ἐν τῷ νθ'.

Οἰκοδεσπότης τοῦ ὥροσκόπου ἡ Ἀφροδίτη· Σελήνης δὲ οἰκοδεσπότης ὁ Κρόνος· καὶ ἔστιν ἐν τῷ ὥροσκόπῳ ὁ Ἄρης, οἰκοδεσποτεῖ δὲ αὐτοῦ ἡ Ἀφροδίτη· καὶ ἔστιν ὁ Ἄρης ἐν τῷ Ζυγῷ, ἡ δὲ Ἀφροδίτη ἐν Ἰχθύσι· τοῦ δὲ ὥροσκοπικοῦ Ἰωδίου τοῦ Ζυγοῦ τὰ μέσα κράσεως ἔστι τοῦ Κρόνου καὶ τοῦ Ἄρεως.<sup>66</sup> καὶ ἐκ τούτων πάντων δείκνυται εὐκράτως ἔχειν τὸν γεννώμενον κατὰ τὴν τοῦ σώματος ἔξιν καὶ τὴν ἡλικίαν σύμμετρον καὶ εὐρυθμον εἶναι διὰ τὸ ὥροσκοπικὸν Ἰωδίον τὸν Ζυγόν.

Ὁ κλῆρος τῆς τύχης ἐν Ζυγῷ, ἐν ᾧ ἔστι καὶ ὁ Ἄρης· ἄλλ' ὁ μὲν Ζυγὸς οἶκός ἐστι τῆς Ἀφροδίτης, ἡ δὲ ὥροσκοπικὴ μοῖρα ὄρια Διός· διὰ τοῦτο καὶ πολλοὺς ἔξει φίλους· ἐπεὶ δὲ καὶ ὁ Ἑρμῆς σχηματίζει μὲν τὸν κλῆρον τῆς τύχης τετραγωνικῶς, τὴν δὲ Ἀφροδίτην ἑξαγωνικῶς, δηλοῖ ἐξ ἐμπορίας περιέσεσθαι αὐτῷ τὴν κτητικὴν τύχην· καὶ ὁ Κρόνος διαμετρῶν τὸν κλῆρον τῆς τύχης κληρονομίας ἔσται αὐτῷ περιποιητικός· καὶ ἐπεὶ ὁ μὲν Ἄρης ὥροσκοπεῖ, ἡ δὲ Ἀφροδίτη κυριεύει αὐτοῦ, καὶ ἀμφοτέροι ὄντες νυκτερινοὶ καὶ τῆς κατὰ τὴν γένεσιν αἰρέσεως, ἀκαθαίρετον ἡγουν παραμένουσιν<sup>67</sup> δηλοῦσι τῷ γεννωμένῳ ἔσεσθαι τὴν κτῆσιν.<sup>68</sup>

Ὁ Ἑρμῆς ἐν ἰδίῳ ὁρίῳ ὧν σημαίνει παρὰ βασιλέως φιλίας ἀπολαύσειν καὶ δωρεάς τινας ἐξ αὐτοῦ λήψεσθαι. ὁ Ἑρμῆς ἑῶαν φάσιν ἐγγιστα ποιούμενος δείκνυσι πρακτικὸν ἐν ἐμπορίαις ἔσεσθαι· ἡ Σελήνη ὑπαυγος οὔσα σημαίνει ἀγαμὼν ἔσεσθαι παντελῶς πρὸς νόμιμον γυναῖκα.<sup>ρ</sup>

The second horoscope, on folios 292–93, has as heading: θεμάτιον γενεθλιαλογικὸν γεγονὸς ἐπὶ τινὶ ἐνδόξῳ ἀνδρὶ ἀπὸ τῶν Βενετῶν ἐν ἔτει ρωνγ Φεβρουαρίου δ' ὥρα κβ' ἀπὸ μεσημβρίας· ἡμερινὴ γένεσις.<sup>α</sup> This date should be *ca.* 10 A.M. of 5 February 1345; but the position of the Moon rather suits 10 February, and that given for Jupiter is 157°, that for Mars 50° from their true positions. The mistake in the calculation of the Lot of Fortune indicates that the astrologer who cast this horoscope was inadequate as a computer.

	Text	Computation for 5 February 1345
Saturn	Aquarius 28;56 <sup>ο</sup> 1;25 <sup>ο</sup> S.	Aquarius 14 <sup>ο</sup> 0;57 <sup>ο</sup> S.
Jupiter	Virgo 2;2 1;44 S.	Aquarius 9 0;36 S.
Mars	Sagittarius 5;39 0;14 S.	Capricorn 25 0;56 S.
Sun	Aquarius 25;14	Aquarius 24
Venus	Pisces 19;16 1;3 S.	Pisces 8 1;25 S.
Mercury	Aquarius 1;47 0;20 S.	Aquarius 0 0;51 S.
Moon	Taurus 28;29 3;35 S.	Pisces 20 2;6 S.
Lunar node	Libra 11;35	Libra 11
Ascendent	Taurus 23	<i>ca.</i> noon
Lot of Fortune	Leo 21;43	

The position of the Moon at 6 P.M. of 9 February was Taurus 19° and 3° S.

The prediction is found on folios 292<sup>v</sup>–293:

Ἡ Ἀφροδίτη κυριεύουσα τοῦ ὥροσκοπικοῦ Ἰωδίου τοῦ Ταύρου σημαίνει τὸν γεννώμενον λευκὸν ἐπὶ τὸ εὐχρουν καὶ μελανόφθαλμον καὶ πρὸς τὸ ἐπιχαριτώτερον διακείμενον καὶ εὐσημονέστερον καὶ εὐχυμότερον καὶ τρυφερώτερον, καὶ τοὺς ὀφθαλμοὺς εὐπρεπεῖς τε καὶ

<sup>64</sup> Cf. Ptolemy, Ἀποτελεσματικά 3,11.

<sup>65</sup> The reference is to Hephaestio, Ἀποτελεσματικά 1,1,131.

<sup>66</sup> Cf. Ptolemy, Ἀποτελεσματικά 1,9,8.

<sup>67</sup> παραμένουν MS.

<sup>68</sup> Cf. Ptolemy, Ἀποτελεσματικά 4,2.

ὑποχαροποιούς.<sup>69</sup> ἡ Σελήνη ἐπὶ τοῦ ὥροσκοπικοῦ ζωδίου τυχοῦσα σύμμετρον τῇ ἡλικίᾳ καὶ τῇ κράσει ὑγρότερον ἐπειδὴ αὐξίφωτῇ.

Ἐνταῦθα δὲ Ἥλιος κέκριται ἀφέτης διὰ τε τὴν γένεσιν ἡμερινὴν εἶναι καὶ τὸν Ἥλιον ἐν ἀφετικῷ τόπῳ τυχεῖν τῷ μεσουρανήματι. καὶ ἐπειδὴ μεταξύ τῆς μεσουρανούσης μοίρας, ἣτις ἐστὶν ἡ α' τοῦ Ὑδροχόου, καὶ τῆς ὥροσκοπούσης ἐστὶν ὁ ἀφέτης, γίνεται ἡ ἀφesis εἰς τὰ ἐπόμενα κατὰ ἀκτινοβολίαν. καὶ ὑπαντᾷ μὲν ὁ Κρόνος σωματικῶς τῷ Ἠλίῳ ἐν τοῖς ἐπομένοις ὦν ἐπὶ τοῦ αὐτοῦ ζωδίου τῷ Ἠλίῳ, ἀλλ' οὐ γίνεται ἀναιρέτης εἰ καὶ κακοποιός ἐστιν ἐπειδὴ ἐν οἴκῳ τε ἰδίῳ ἐστὶ καὶ τριγώνῳ καὶ ὀρίοις. διὸ ζητήσαντες ἀναιρέτην ἄλλον οὐχ εὑρομεν εἰ μὴ τὴν τοῦ Ταύρου κε ιδ', τετράγωνον διάστασιν πρὸς τὸν Ἥλιον καὶ κεκακωμένην ἐπειδὴ ἐν ὀρίοις κακοποιοῦ ἐστὶ τοῦ Κρόνου καὶ ὑπ' οὐδενὸς τῶν ἀγαθοποιῶν θεωρεῖται. καὶ ἐπεὶ τῇ μὲν τοῦ Ἠλίου μοίρᾳ παράκεινται ἐπὶ τοῦ κανονίου τῆς ὀρθῆς σφαίρας χρόνοι ἰσημερινοὶ νλ λγ', τῇ δὲ ἀναιρετικῇ μοίρᾳ τοῦ Ταύρου χρόνοι ρμβ μθ', ἀφαιρουμένων ἐξ αὐτῶν τῶν νλ λγ',<sup>70</sup> λοιποὶ χρόνοι πε ις', οἵτινες καὶ ὥς ἔτη βιώσιμα καταλογίζονται πε καὶ μῆνες γ καὶ ἡμέραι ζ.

Ἡ ὥροσκοπικὴ μοῖρα ἐν τῷ γ' δεκανῷ οὔσα τοῦ Ταύρου δηλοῖ εὐσχήμονα καὶ μεγαλόψυχον καὶ ἔνεκα δημοσίων δουλειῶν ἐν ἀποδημίαις γνωστὸν ἔσεσθαι· κλιμακτῆρες δὲ αὐτοῦ εἰσιν ἐν ἔτει α' καὶ θ' καὶ ια' καὶ κγ' καὶ κς' καὶ μβ' καὶ ν' καὶ ξη' καὶ ος'.<sup>71</sup>

Ὁ Ζεὺς ἐν τῷ δ' τόπῳ τῷ ὑπογείῳ εὐρεθεὶς κέντρῳ εἰς βαθὺ γῆρας ἐλεύσεσθαι τὸν γεννηθέντα σημαίνει καὶ ὑπὸ τῶν οἰκείων ἀξιοθήσεσθαι ταφῆς καὶ ὑπ' αὐτῶν κληρονομηθήσεσθαι. εἰ δὲ καὶ ὁ Κρόνος διαμετρεῖ τὸν τοιοῦτον τόπον, ἀλλ' οὐ κακοποιεῖ—πρῶτον μὲν ὅτι χαίρει ἐν τούτῳ τῷ τόπῳ ὁ Κρόνος, β' δὲ ὅτι καὶ ἐν ἰδίῳ οἴκῳ ὦν ὁ Κρόνος καὶ τριγώνῳ καὶ ὀρίοις ἀγαθοποιεῖν δύναται καὶ οὐ κακοποιεῖν, καὶ μάλιστα ὅτι καὶ καθ' αἶρεσιν ἐστὶ τῆς γενέσεως· ἡμερινὸς γάρ.

Τὰ περιέχοντα τὸν Ἑρμῆν καὶ τὴν Σελήνην ζώδια εἰσιν ὁ τε Ταῦρος καὶ ὁ Ὑδροχόος· κύριοι δὲ αὐτῶν Σελήνης μὲν ἡ Ἀφροδίτη, Ἑρμοῦ δὲ ὁ Κρόνος· καὶ εἰσὶ καὶ ἄμφω τὰ ζώδια στερεά, ἀλλὰ δὴ καὶ ὁ Ὑδροχόος ἐν ᾧ ὁ Κρόνος. καὶ δηλοῦσι τὰ στερεὰ ζώδια δίκαιον ἔσεσθαι κατὰ ψυχὴν, ἀκολάκευτον, ἐπίμονον, βέβαιον, συνετόν, ὑπομονητικόν, φιλόπονον, ἐγκρατῆ, ἔτι τε ποικίλον καὶ εὐμετάβολον καὶ εὐπόριστον διὰ τοὺς ἰχθύας δίσωμον ὄντας ζώδιον ἐν ᾧ ἡ Ἀφροδίτη.<sup>72</sup> ἡ Ἀφροδίτη ἔσπερία δύνουσα εὐφυῆ δηλοῖ καὶ φρόνιμον, οὐκ ἄγαν δὲ μνημονευτικόν, διερευνητικόν δὲ τῶν ἀποκρύφων καὶ ζητητικόν τῶν δυσθεωρήτων, τούτεστι μαγικόν καὶ μυστηρίων ζητητικόν καὶ μετεωρολογικόν καὶ ἀστρολογικόν καὶ οἰωνοσκοπικόν καὶ φιλόσοφον καὶ ὄνειροκριτικόν.<sup>73</sup>

Ὁ κλῆρος τῆς τύχης ἐν Λέοντι ὅς<sup>74</sup> ἐστὶν οἶκος καὶ τρίγωνον Ἠλίου· ὁ Ζεὺς δὲ ἐστὶν ἐν αὐτῷ καὶ τούτου ὅρια ἡ μοῖρα τοῦ κλήρου τῆς τύχης· καὶ ὁ Ζεὺς τὸν μὲν Ἥλιον διαμετρεῖ, τὴν δὲ Σελήνην τετραγωνίζει· ἐστὶ δὲ καὶ πρὸς τὸν Ἥλιον συναιρέτης. καὶ διὰ ταῦτα πλούσιος καὶ πολυκτήμων ἔσται ὁ ἄνθρωπος. καὶ κληρονομία αὐτῷ περιέσται διὰ τὸν Κρόνον σχηματιζόμενον διαμετρικῶς τῷ Διί.<sup>75</sup> καὶ ἔνδοξος καὶ περιφανὴς καὶ ἀξιοματικὸς διὰ τὸν Ἥλιον δορυφορούμενον ὑπὸ τοῦ Ἑρμοῦ ἑῶν ἀνατολήν ποιούμενου<sup>76</sup> καὶ ἐν τῷ αὐτῷ κέντρῳ ὄντος<sup>77</sup> τῷ ὑπὲρ γῆν.<sup>78</sup>

Καὶ ἐπεὶ πάλιν ὁ Ἥλιος ἐν τῷ μεσουρανήματι ἐστὶ, καὶ ὁ Ἑρμῆς ἑῶν φάσιν ποιεῖται πρὸς αὐτὸν ἐν ἐνὶ καὶ τῷ αὐτῷ ζωδίῳ, καὶ ὁ Κρόνος ἐπὶ τοῦ μεσουρανήματος ὦν συνάπτεται τῇ Σελήνῃ μοιρικῶς κατὰ σχῆμα τετράγωνον, πρακτικώτατον ἔσεσθαι σημαίνει τὸν τοιοῦτον.

<sup>69</sup> Ptolemy, Ἀποτελεσματικά 3,12,4 and 6. The readings indicate a knowledge both of MS V and of class γ.

<sup>70</sup> τῇ δὲ α' add. MS, sed del.

<sup>71</sup> From Hephaestio, Ἀποτελεσματικά 1,1,134 and 136, which, however, refer to the third decan of Libra rather than that of Taurus.

<sup>72</sup> From Ptolemy, Ἀποτελεσματικά 3,14,3.

<sup>73</sup> From Ptolemy, Ἀποτελεσματικά 3,14,5.

<sup>74</sup> of MS.

<sup>75</sup> From Ptolemy, Ἀποτελεσματικά 4,2.

<sup>76</sup> ποιούμενον MS.

<sup>77</sup> ὄντα MS.

<sup>78</sup> Cf. Ptolemy, Ἀποτελεσματικά 4,3.



ἐπεὶ δὲ ὁ Ἑρμῆς ἐστὶ ἐνταῦθα κύριος τῆς πράξεως καὶ ἔῴαν φάσιν ποιεῖται πρὸς τὸν Ἥλιον καὶ ἔστιν εἰς τῶν ᾧ ἀστέρων τῶν παραλαμβανομένων εἰς τὴν κυρείαν τῆς πράξεως, Ἄρεως, Ἀφροδίτης, Ἑρμοῦ (οὗτος γίνεται κύριος ἐνταῦθα τῆς πράξεως, ὁ δὲ Κρόνος συμπαραλαμβάνεται), σημαίνει γοῦν ἔσεσθαι τὸν ἄνθρωπον γραμματέα ἢ γραμματιστὴν ἢ λογιστὴν ἢ ἔμπορον ἢ τραπεζίτην ἢ μάντιν ἢ ἀστρολόγον, καὶ μάλιστα ἔμπορον διὰ τὸν Κρόνον.<sup>79r</sup>

## APPENDIX II

This catalogue of thirty fixed stars employed for astrological purposes has been published in five versions by P. Kunitzsch in *BZ*, 57 (1964), 408–11. He associates it with George Chrysococces because in some versions the longitudes are given for 1346, the epoch of a star catalogue in Chrysococces' *Ἐξήγησις* published by Kunitzsch on pages 394–97. However, Kunitzsch's type *a* and the version in Vat. gr. 208 indicate that the list is older,<sup>80</sup> and this fact is confirmed by Kunitzsch's type *be* where the longitudes are 7;10<sup>0</sup> higher than Ptolemy's; the date of this type, then, is *ca.* A.D. 854. The list in Vat. gr. 208, which corresponds almost completely with Kunitzsch's type *a* (dated 1324), has longitudes 11;55<sup>0</sup> higher than Ptolemy's; its date, then, is *ca.* A.D. 1329, as is also confirmed by the marginal scholium in Vat. gr. 208. Both of these types use Ptolemy's value of precession.

The other two are corrected at the Islamic rate of precession—1<sup>0</sup> every sixty-six years. The list in Laur. 28,14, which corresponds to Kunitzsch's type *defg* (including the displacement of Βορεία χηλή τοῦ Σκορπίου and Κεφαλή τοῦ ἡγουμένου Διδύμου to the end of the list and the omission of the two additional unnamed stars), increases the longitudes over Ptolemy's by 18;30<sup>0</sup>; this would lead to the date *ca.* A.D. 1358, whereas the heading in Laur. 28,14 indicates 1346. Finally, the catalogue in Laur. 28,16 increases the longitudes by 19;8<sup>0</sup>, which leads to a date of *ca.* A.D. 1399 rather than 1389; but the increase of 0;38<sup>0</sup> over the longitudes in Laur. 28,14 correctly reflects the passage of forty-three years between 1346 and 1389. One suspects, then, that Abramius copied the list of stars from Vat. gr. 208, but corrected the longitudes as given in Laur. 28,14; as the last two stars in Vat. gr. 208 do not appear in Laur. 28,14, he simply repeated the longitudes he found in Vat. gr. 208.

The text in the margin of Vat. gr. 208, fol. 130v is: οὗτοί εἰσι οἱ ἅλαμτροὶ ἀστέρες οἱ κατὰ τὰς τοῦ μεγάλου Πτολεμαίου παραγγελίας λαμβανόμενοι ἐν τοῖς ἀποτελέσμασιν. ἰστέον δὲ ὡς ἐπεὶ ἐπέδειξεν ὁ αὐτὸς Πτολεμαῖος ἐν τῇ Συντάξει κινουμένους καὶ τοὺς ἀπλανεῖς ἀστέρας εἰς τὰ ἐπόμενα κατὰ ῥῆτι μοῖραν ᾧ, διὰ τοῦτο μεταποιήθη παρ' ἡμῶν καὶ τὸ τοῦ μήκους σελίδιον ἐν τῷ παρόντι κανονίῳ γεγονυίας ψηφοφορίας κατὰ τὸ ῥωλῆ ἔτος ἀπὸ κτίσεως κόσμου· τὰ δὲ λοιπὰ εἰσι ἀμεταποίητα.<sup>s</sup> The phraseology reminds one of Isaac Argyrus; but the almost identical type *a* of Kunitzsch is dated five years earlier. Isaac was very young indeed then.

The heading of the catalogue in Laur. 28,14 is: κανόνιον ἀπλανῶν ἀστέρων ἐκτεθὲν ἀπὸ Ἀδάμ ἐν ἔτει ῥωλῆ, Περσῶν δὲ ψιε.<sup>t</sup> This deviates only slightly from "Chrysococces'" heading. The heading in Laur. 28,16 is: κανόνιον τῶν ἅλαμπτῶν ἀστέρων τῶν παραλαμβανομένων ἐν τοῖς ἀποτελέσμασιν;<sup>u</sup> precisely the same heading is found in Vat. gr. 208.

<sup>79</sup> From Ptolemy, *Ἀποτελεσματικά* 4,4.

<sup>80</sup> The list is, in fact, derived from the so-called *Astrologus anni 379* (ch. 135 of pseudo-Palchus, edited in *CCAG*, 5,1; 194–206), from whom it was copied by Theophilus of Edessa (edited in *CCAG*, 5,1; 212–17) and an anonymous author of *ca.* 884 (edited in *CCAG*, 5,1; 217–26).

<i>Star</i>	<i>Vat. gr.</i> 208	<i>Longitude</i> Laur. 28,14	<i>Latitude</i> Laur. 28,16	<i>Latitude</i>	<i>Magnitude</i>	<i>Planets</i>
Στάχυς	♌ 8;35 <sup>o</sup>	♌ 15;10 <sup>o</sup>	♌ 15;48 <sup>o</sup>	2 <sup>o</sup> S.	1	Venus, Mercury
Λύρα	♌ 29;15	♌ 5;50	♌ 6;28	62 N.	1	Venus, Mercury
Ἰχθύς μέγας	♌ 18;55	♌ 25;30	♌ 26;8	23 S.	1	Venus, Mercury
Ὅρις	♌ 21;5	♌ 27;40	♌ 28;18	60 N.	2	Venus, Mercury
Βόρειος Στέφανος	♌ 26;35	♌ 3;10	♌ 3;48	44;30 N.	2	Venus, Mercury
Καρδία Λέοντος	♌ 14;25	♌ 21	♌ 21;38	0;10 N.	1	Jupiter, Mars
Ἀρκτουρος	♌ 8;55	♌ 15;30	♌ 16;8	31;30 N.	1	Mars, Jupiter
Ἀετός	♌ 15;45	♌ 22;20	♌ 22;58	29;10 N.	2	Mars, Jupiter
Ἀντάρης	♌ 24;35	♌ 1;10	♌ 1;48	4 S.	2	Mars, Jupiter
Κύων	♌ 29;35	♌ 6;10	♌ 6;48	39;10 S.	1	Jupiter, Mars
Ἀριστὸς ποὺς ὠρίωνος	♌ 2;45	♌ 8;20	♌ 8;58	31;30 S.	1	Jupiter, Saturn
Μέσος τῆς Λώνης ὠρίωνος	♌ 9;15	♌ 15;50	♌ 16;28	24;50 S.	2	Jupiter, Saturn
Ὦμος δεξιὸς Ἡνιόχου	♌ 14;45	♌ 21;10	♌ 21;48	20 N.	2	Jupiter, Saturn
Γόνυ τοῦ Τοξότου	♌ 28;55	♌ 5;30	♌ 6;8	18 S.	2	Jupiter, Saturn
Γοργόνιον	♌ 11;35	♌ 18;10	♌ 18;48	23 N.	2	Jupiter, Saturn
Αἶψ	♌ 6;55	♌ 13;30	♌ 14;8	22;30 N.	1	Jupiter, Saturn
Κεφαλὴ τοῦ ἐπομένου Διδύμου	♌ 8;35	♌ 15;10	♌ 15;48	6;15 N.	2	Mars alone, Heracles <sup>1</sup>
Βόρεια χηλὴ τοῦ Σκορπίου	♌ 4;5	♌ 10;40	♌ 11;18	8;50 N.	2	Jupiter, Mercury
Κεφαλὴ τοῦ ἡγουμένου Διδύμου	♌ 5;15	♌ 11;50	♌ 12;28	9;30 N. <sup>2</sup>	2	Jupiter, Mercury, Apollo <sup>3</sup>
Ὦμος ἡγουμένος ὠρίωνος	♌ 5;55	♌ 12;30	♌ 13;8	17;30 S.	2	Mars, Mercury
Προκύων	♌ 11;25	♌ 18	♌ 18;38	16;10 S.	1	Mercury, Mars
Ὦμος δεξιὸς ὠρίωνος	♌ 13;55	♌ 20;30	♌ 21;8	17 S. <sup>4</sup>	1	Mars, Mercury
Κοινὸς ἵππου καὶ Ἀνδρομέδας	♌ 29;45	♌ 6;20	♌ 6;58	26 N.	2	Mars, Mercury
Ὦμος δεξιὸς Ἰππου	♌ 14;5	♌ 20;40	♌ 21;18	31 N.	2	Mars, Mercury
Ποὺς δεξιὸς Κενταύρου	♌ 20;15	♌ 26;50	♌ 27;28	41;6 S. <sup>5</sup>	1	Venus, Jupiter <sup>6</sup>
Ὁ ἔσχατος τοῦ Ποταμοῦ	♌ 7;5	♌ 18;40	♌ 19;18	53;30 S. <sup>7</sup>	1	Venus, Jupiter <sup>8</sup>
Οὐρὰ Λέοντος	♌ 7;25	♌ 13	♌ 13;38	11;50 N.	1	Saturn, Venus
Ὁσφὺς Λέοντος ἐπομένη	♌ 26;5	♌ 2;40	♌ 3;18	13;40 N.	2	Saturn, Venus
Ὦδρου αὐχλὴν	♌ 11;55	♌ 18;30	♌ 19;8	20;30 S.	2	Saturn, Venus
Ὁ λαμπρὸς τῶν Ὑάδων	♌ 24;35	♌ 1;30	♌ 2;18	5;10 S.	1	Mars, Venus
	♌ 14;25		♌ 14;25	3;30 N.		
	♌ 22;15		♌ 22;15	0;20 N.		

<sup>1</sup> Mars, Saturn in Vat. gr. 208.  
<sup>2</sup> 9;30 S. in Laur. 28,14.

<sup>3</sup> Apollo om. Vat. gr. 208 and Laur. 28,14.

<sup>4</sup> 17 N. in Laur. 28,14.

<sup>5</sup> 41 S. in Vat. gr. 208; 41;10 S. is correct.

<sup>6</sup> Saturn, Jupiter in Vat. gr. 208.

<sup>7</sup> 53;30 N. in Laur. 28,14.

<sup>8</sup> Saturn, Jupiter in Vat. gr. 208.

APPENDIX III

These translations are intended as an aid for those unfamiliar with the Greek used by astrologers and astronomers. Thorough explanations of the technical terms would require a treatise on astrology; that by A. Bouché-Leclercq (*L'astrologie grecque* [Paris, 1899; rpr., Brussels, 1963]) is highly recommended.

a. On 12 August at three and one-half hours after sunrise in the year 6884 (occurred) the entry into Constantinople of the emperor, Andronicus Palaeologus, and his possession of the imperial power.

b. The lot (of kingship) is in a bad place, the eighth; the lord of its triplicity, that is Venus, is in a good place, midheaven; this indicates that the emperor will be restored to himself out of some grief and misery (or cowardice) and will be more manly. And since both the lords of the triplicity of the lot, namely Venus and the Moon, are in a good place, midheaven, and also Venus is rising in the east, it indicates that there will be happiness and victory for the emperor, except that, since Jupiter is in the twelfth place, it indicates that the emperor will have some moderate grief and that there will be irregularity in the imperial affairs. Since the midheaven is in the terms of a benefic planet, Jupiter, it indicates good.

c. Horoscope cast at the proclamation (as emperor) of Manuel, the son of the emperor John Palaeologus at noon on 25 September in the year 6882.

d. These are judged to be the bad omens from among the indications concerning every undertaking:

Jupiter, the lord of the ascendent sign, Sagittarius, is found in the eighth place. Jupiter, being lord of the ascendent, is opposite to Saturn, which is in a bad place, the second. Jupiter, the lord of the ascendent, and Saturn, the lord of the second (place), are contrary to each other; for they oppose each other. The lord of the house (occupied by) the lot of good fortune, namely Jupiter, is in the eighth place which is opposite to the second with both of the places being bad. Mars, being in the fourth place, indicates that the end will be bad. The lord of the clime in which the undertaking occurred, that is Saturn, is opposite to the lord of the ascendent, namely Jupiter.

These are found to be the bad omens from among the indications concerning a royal proclamation:

Mars, being a malefic, is opposite to the Sun and they are of opposite sect. The Moon is with Saturn, which is a malefic, and they are of opposite sect. The sign in midheaven, being tropical, indicates that the duration of the undertaking is unstable, weak, and easily changeable. The ascendent, being two-bodied, indicates that it will last for a time, but will not endure. The Moon is overtaking Saturn, and Saturn is not stationary; this indicates that the beginning is unstable. Mars, being a malefic, is opposed to the midheaven and aspects the ascendent in quartile; this indicates that the change will be swift. Mars is opposite to Venus, which is the lord of the midheaven and which has account and propriety with respect to the beginning of a proclamation. The descendent, being a slanting sign, is injured by a malefic, Mars, which is in quartile configuration with it; but its lord, Mercury, has a good position and indicates that the man is simple and pure. The Moon is with Saturn, which is a malefic, and indicates that the succession will be quick. The Sun is in a cardine and is injured, being opposed by a malefic, Mars; therefore it indicates briefness. The necessity for briefness is because the lords of the houses (occupied by) the luminaries, namely Venus and Saturn, are injured by malefics, Venus by Mars and Saturn by himself and also by Mars. The lord of the ascendent, namely Jupiter, is configured in opposition with the lord of the second place, namely Saturn; this indicates that the ruler willingly will make many expenditures. The eleventh place is injured by Saturn which is configured in trine with respect to it; this indicates harm for the members of his household. The injury of the second place indicates harm for his flock (of subjects).

e. Horoscope of a lunar eclipse which occurred on 22 August at the third hour of the night in the year 6882.

f. Gemini is in the ascendent, the house and nocturnal triplicity of Mercury, the diurnal (triplicity) of Saturn, the common (triplicity) in both (night and day) of Jupiter, the term of Venus, the decan of Mars, the exaltation of the ascending node, and the dejection of the descending node. The longitude of the eclipse is Pisces 7°, the house of Jupiter, the term of Venus, the decan and nocturnal triplicity of Saturn, the diurnal (triplicity) of Mars, the common (triplicity) of the Moon, the exaltation of Venus, the dejection of Mercury. The cardine in midheaven is Aquarius 17°, the house of Saturn, the term of Jupiter, the decan of Mercury, the nocturnal triplicity of Mercury, the diurnal (triplicity) of Saturn, and the common (triplicity) of Jupiter.

g. Whenever an eclipse of the Sun or of the Moon occurs in Pisces, there will be much rain, a harmful famine and dangerous weaknesses and injury of notable and great men. Mars, aspecting the sign of the eclipse in trine or in opposition as here, indicates war and the shedding of blood and much harm to the crops and the death of a great leader of the Romans. Since the eclipse occurred at the tenth place of the horoscope, it indicates injury and fear in the hearts of those ruling in the countries belonging to the sign of the eclipse (these are Phazania, Nasa-monitis, Garamantene, Lydia, Cilicia, Pamphylia); also it indicates the victory of their enemies over them, and especially if the malefic, Mars, aspects there from opposition with Mercury. Since after leaving the eclipse the Moon will first conjoin with Mars in a configuration of opposition, it indicates that there will be slaughters and the deaths of great persons and arrogance of thieves and highwaymen.

If the color of this eclipse will be white, as Mastrangelus says, it indicates famine and death for domesticated animals and for traders; but if it is red, as the Persians say since the eclipse occurs at the ascending node, it indicates distress and a weakness of those ruling in the countries that were mentioned (before). Since the lord of the tenth place, Jupiter, conjoins with the lord of the eighth place, Saturn, in a configuration of opposition, it indicates that a man dies for the power of the emperor, an enemy of his, an old and vulgar man. Since Saturn is lord of the degree of the eclipse, it indicates many long-lasting weaknesses. Since Mercury is a more powerful lord of the eclipse, the misfortune which he indicates will be accomplished when he reaches the sign of the eclipse, namely in March; but some partial misfortune from these will appear at the beginning of September because then the Moon will reach the ascendent of the eclipse, namely Gemini. The fruit of the grain will be early because the eclipse was in Pisces. Because Pisces, in which the eclipse occurred, is a watery sign and the river Eridanus rises with the ascendent and Cetus is in Pisces, there is harm to all those who pass their time in the water. Since the ascending node with the Moon causes the eclipse in Pisces, they will cause a scarcity of water in the countries belonging to it (Pisces) so that men in Asia will move to other lands because of the scarcity of necessities; for there will be a scarcity of fish in the sea and in the rivers.

h. We saw that this was true in Byzantium in the year 6888 in the case of the rule of John Palaeologus and his sons Manuel and Andronicus.

i. On 1 January in the year 6894 at the second three-hour period there was an eclipse of the Sun in Capricorn, and the whole of it appeared darkened. As I was in Alexandria, having been sent by the emperor to buy medicines, when the Moon had not yet completely left (the Sun), suddenly a great man, his Amīr, rose up against the Sulṭān and ran out, falling along the plain with those under him, challenging him (the Sulṭān) to battle; and he was not a little confused.

j. I saw in the same book of Abū Maʿshar this also: "If you find at the year-revolution (i.e., at the vernal equinox) the lord of the midheaven or the lord of the ascendent under the rays (of the Sun) or retrograde, or if a malefic (planet) is retrograde in the midheaven of the (year-)

revolution, it indicates a succession (to the throne)." Therefore this is to be investigated, and it was found to be true. For in the year 6898 at the vernal equinox Pisces  $16^{\circ}$  was in the mid-heaven and its lord, Jupiter, was retrograde in the sixth place. In this year the emperor John Palaeologus succeeded (to the throne).

k. It must be known that such fixed stars, as it seems to Ptolemy, move, each (of them),  $1^{\circ}$  in one hundred years or  $0;0,37^{\circ}$  a year; but he says that, as it seems to the Persians who have investigated accurately what pertains to their motion, they move  $1^{\circ}$  in sixty-six years so that each of them moves approximately  $0;0,54,33^{\circ}$  a year. And they say this also, that Ptolemy did not calculate accurately concerning their motion, and because of this he assumed that they move  $1^{\circ}$  in one hundred years.

Therefore their longitudes were set out by us for the beginning of the year 6897 as the Persians say (they should be) since we found their motions set out thus in many books, but also (because) we found it in agreement with experience. For in that year, which was the twelfth indication, on 2 March as the Sun was at Pisces  $20^{\circ}$ , observing with the diopter one of such fixed stars, the Southern Crown, to be at Scorpio  $6;48^{\circ}$ , we found its altitude to be  $23^{\circ}$ . Therefore, moving the pointer of that star on the rete (of the astrolabe) and placing it at the parallel for an altitude of  $23^{\circ}$  on (the plate for) the clime of Byzantium, we found three and one-half equinoctial hours of the night which were also heard from the clock. Not only this, but we found the same thing when we observed other (stars); wherefore it is clear that the accurate (fact of the matter) is thus. For if, as he (i.e., Ptolemy) assumed, (the star) were at Libra  $27^{\circ}$  in that year and its pointer were moved to the parallel of  $23^{\circ}$ , there would no longer be three and one-half hours, but two and two-thirds, which is not true as then we happen to fall from the truth by two-thirds of an hour and ten minutes. Therefore an astrolabe constructed for that year has the longitudes of the stars engraved on it set forth thus.

l. The coming eclipse of the Sun, which occurred in the year 6899, according to the Persians 760, on 28 Tir according to the Persians, on 5 April according to the Greeks, was calculated by my teacher, Eleutherius.

m. On Friday, 28 July 6910 Timūr Lang defeated the Amīr by force, and seized his cities and lands, and plundered them at a time when I, Dionysius, was in Constantinople; and I saw a strange sight, how every tribe and nation and tongue arrived as fugitives in Constantinople. Then there was a great earthquake there, and a thunderbolt fell on the sacred monastery of the Peribleptos and burned in it icons and curtains and some other things, as well as the cowls or  $\kappa\alpha\mu\eta\lambda\alpha\tilde{\upsilon}\chi\alpha$  from (the heads of) the monks.

n. Calculation made for the parallel (of latitude) through Byzantium at 11 P.M. on 17 January in the year 6860.

o. The longitude of the Sun is Aquarius  $5;35,0,53,26^{\circ}$ ; the longitude of the Moon is Aquarius  $5;28,42,56,16^{\circ}$ , its latitude  $4;39^{\circ}$  S. descending; the longitude of the ascending node is Taurus  $27;9^{\circ}$ ; the longitude of the descending node is Scorpio  $27;9^{\circ}$ ; the longitude of Saturn is Taurus  $3;37,29^{\circ}$ , its latitude  $2;22,48^{\circ}$  S.; the longitude of Jupiter is Virgo  $21;7,50^{\circ}$ , its latitude  $1;44,24^{\circ}$  N.; the longitude of Mars is Libra  $23;38,56^{\circ}$ , its latitude  $1;42,51^{\circ}$  N.; the longitude of Venus is Pisces  $15;47,33^{\circ}$ , its latitude  $1;34,22^{\circ}$  N., the longitude of Mercury is Capricorn  $10;51^{\circ}$ , its latitude  $2;25,28^{\circ}$  N.

p. Saturn was judged to be prorogator in this (horoscope) since it is in an aphetic place, the descendent cardine, and also has the relationship of lord of the house with respect to the place (occupied by) the Moon (for Aquarius is the house and triplicity of Saturn, and the  $10^{\circ}$  of its [the Moon's] longitudinal position is [in] the term of Saturn), and equally with respect to the previous full-moon, which occurred in Capricorn (for Capricorn also is the house of Saturn). The terminator in this (horoscope) is the descendent cardine since the prorogator is found in the descendent quadrant. And since there are  $183;53^{\circ}$  of setting-time at the parallel (of latitude)

through Byzantium for Aries 18°, at which is the descendent cardine, namely the degrees of rising-time for the degree opposite to Aries 18°, and equally for the degree opposite to Taurus 3;30°, namely the longitude of Saturn, the degrees of rising-time are 223;30, if 183;53° are subtracted from 223;30°, there remain 39;37°. In this (horoscope) the planet that physically encounters (the prorogator) is Saturn; for after approximately fifty days it will conjoin with Saturn. Since it is below the horizon, it is taken at the opposite point above the horizon, namely at Virgo 16°, to which correspond 15;53° of rising-time for one seasonal hour. Since Virgo 16° is four seasonal hours from the ascendent (i.e., from Libra 18°),<sup>81</sup> which are four-twelfths of the (length of) day(-light), there are subtracted from the 15;53° of hourly rising-time (previously) mentioned four-twelfths or one-third, that is 5;18° of (hourly) rising-time; there remain 10;35° of (hourly) rising-time. These are added to the 39;37° of rising-time (mentioned) above, and there result 50;12° of rising-time. Since Mercury aspects Saturn, being in trine with it (it also is a benefic in this [horoscope]); for it is in the same house as is Venus<sup>82</sup>, it also because of this is taken in the (hemisphere) above the horizon, in Cancer 10;51°, to which correspond 18;58° of rising-time for a seasonal hour. Half of this is 9;29°; for Cancer 11° is approximately six seasonal hours from the ascendent. These 9;29° of rising-time are added to the 50;12° mentioned (previously), and there result 59;41° of rising-time. They are calculated as being fifty-nine years and eight months and six days of life.

According to Hephaestio, or rather the most ancient of the Egyptians, since the ascendent of the present nativity is found in the second decan of Libra, the native is shown to be illustrious, rich, and in a position of authority; he will travel from his native land for good expectations; his climacteric years are the ninth, twelfth, fourteenth, thirty-second, or fifty-ninth.

Venus is the lord of the house (occupied by) the ascendent; Saturn is the lord of the house (occupied by) the Moon; Mars is in the ascendent and Venus is the lord of the house (occupied by him); Mars is in Libra, Venus in Pisces; and the middle parts of Libra, the ascendent sign, are of the temperament of Saturn and Mars. From all these things it is indicated that the native is moderate in the appearance of his body and is commensurate with his age and graceful because of the ascendent sign, Libra.

The lot of good fortune is in Libra, in which also is Mars; but Libra is the house of Venus and the ascendent degree is (in) the term of Jupiter. Because of this he will also have many friends. Since Mercury is in quartile aspect with the lot of good fortune, in sextile aspect with Venus, it indicates that the acquisitive fortune will result for him from trading. Saturn being opposite to the lot of good fortune will cause inheritances for him. Since Mars is in the ascendent and Venus is his lord, both being nocturnal of the sect of the nativity, they show that the native's acquisitions will be unweakened, that is, permanent.

Mercury being in his own term indicates that he will enjoy the friendship of the emperor and will receive some gifts from him. Mercury being about at its heliacal rising in the east shows that he will be effective in commercial transactions. The Moon being under the rays (of the Sun) indicates that he will be completely marriageless with respect to a lawful wife.

q. Genethliological horoscope cast for a well-known man from among the Venetians at twenty-two hours from noon on 4 February in the year 6854. A diurnal nativity.

r. Venus being lord of the ascendent sign, Taurus, indicates that the native is white going on to a good complexion, black-eyed, and disposed to the more pleasing, the more decorous, the more wholesome, and the more delicate, and his eyes are comely and rather blue. The Moon being in the ascendent sign (indicates that he is) commensurate with his age and rather watery in his temperament since she is waxing.

In this (horoscope) the Sun is judged to be the prorogator because of its being a diurnal nativity and because the Sun happens to be in an aphetic place, the midheaven. Since the

<sup>81</sup> This whole computation is riddled with errors; e.g., the difference is two seasonal hours, three equinoctial hours, not four seasonal hours.

<sup>82</sup> This is false.

prorogator is between the degree in midheaven, which is Aquarius 1<sup>0</sup>, and that in the ascendent, the prorogation is in the direct order of the signs according to aspect. Saturn encounters the Sun physically being in what follows in the same sign as the Sun, but he is not the terminator even if he is malefic since he is in his own house, triplicity, and term. Looking for another terminator, we find none except Taurus 25;14<sup>0</sup>, the quartile distance with respect to the Sun which is injured since it is in the term of a malefic, Saturn, and is not aspected by any of the benefics. Since there correspond to the degree (occupied by) the Sun in the table of right ascension 57;33<sup>0</sup> of equatorial rising-time, and to the terminative degree of Taurus 142;49<sup>0</sup> of rising-time, when 57;33<sup>0</sup> are subtracted from these there remain 85;16<sup>0</sup> of rising-time which are calculated as being eighty-five years and three months and six days of life.

The ascendent degree being in the third decan of Taurus shows that he is decorous and great-souled and will be known on account of his public services in foreign missions. His climacteric years are the first, ninth, eleventh, twenty-third, twenty-sixth, forty-second, fiftieth, sixty-eighth, and seventy-sixth.

Jupiter, having been found in the fourth place, the subterranean cardine, indicates that the native will come to a great old age and will be deemed worthy of burial by the members of his household and will be succeeded in his inheritance by them. Even though Saturn is opposite to this place (i.e., the fourth), yet he does no evil—first because Saturn rejoices in this place (i.e., Aquarius), and secondly because Saturn, being in his own house, triplicity, and term, can do good and not evil, and especially because he is in the sect of the nativity; for he is diurnal.

The signs containing Mercury and the Moon are Taurus and Aquarius; their lords are: Venus of the Moon and Saturn of Mercury. They are both fixed signs, but also Aquarius (is the sign) in which Saturn is. The fixed signs indicate that he will be just in spirit, not a flatterer, steadfast, firm, intelligent, patient, fond of work, holding fast, and still artful, changeable, and devious because Pisces, in which Venus is, is a two-bodied sign. Venus setting in the west indicates that he is graceful and wise, but with not too good a memory, prying into secrets and zealous for the arcane, that is a magician, pursuing mysteries, skilled in weather-omens, an astrologer, a watcher of bird omens, a philosopher, and an interpreter of dreams.

The lot of good fortune is in Leo, which is the house and triplicity of the Sun; Jupiter is in it and the degree (occupied by) the lot of good fortune is (in) his term; Jupiter is opposite to the Sun and aspects the Moon in quartile; and he is of the same sect as the Sun. Because of these things the man will be rich and have many acquisitions. His inheritance will survive because Saturn is configured in opposition to Jupiter. (He will be) famous and well known and honored because the Sun is guarded by Mercury which is rising heliacally in the east and is in the same cardine, that above the horizon.

Since again the Sun is in the midheaven, and Mercury is rising in the east with respect to him (the Sun) in one and the same sign, and Saturn being in the midheaven conjoins with the Moon to the degree in a quartile configuration, it indicates that he will be most effective. Since Mercury in this (horoscope) is lord of activity and is rising in the east with respect to the Sun and is one of the three stars taken for the lordship of activity—Mars, Venus, and Mercury (he [Mercury] is lord of the activity in this [horoscope], but Saturn is taken with him), it indicates that the man will be a secretary or a schoolteacher or a calculator or a trader or a money changer or a prophet or an astrologer, and especially a trader because of Saturn.

s. These are the thirty bright stars which are used in prognostications according to the rules of the great Ptolemy.<sup>83</sup> It is to be known that, since Ptolemy himself in the *Syntaxis* showed that the fixed stars move 1<sup>0</sup> in the direct order of the signs in one hundred years, therefore the column of longitude in the present table was changed by us since the calculation occurred in the year 6837 from the creation of the world; the other (columns) are unchanged.

t. Table of fixed stars set out in the years 6854 from Adam, and (in the year) 715 of the Persians.

u. Table of the thirty bright stars used in prognostications.

<sup>83</sup> Ptolemy, 'Αποτελεσματικά 1,9, in fact mentions many more stars than these thirty.